



[SDH 1/11]

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ROYAL BOTANIC GARDENS,
KEW.



Archives Room

the 18th of May, 1833, I received my appointment as
Assistant Surgeon in the ³⁸⁶⁰Imperial Navy, a situation
which I had prepared myself for, mainly for the
purpose of accompanying Captain J. C. Ross, & his
Expedition to the Antarctic Regions. - I accordingly
sailed to Chatham & spent nearly four tedious
months there, waiting until the ships, the "Endeavour"
& "Terror" which the Government had applied for the use
of the Expedition, should be fully ready & equipped for
their interesting voyage. In the 1st of September, along
with the other Officers belonging to the "Endeavour", shifted
over from the old frigate, the "Carter", in which we had
been hulked, to the "Endeavour", & on the following day
dropped down the river to Gillingham, where the vessel
was bound, to determine the force of attraction which
the mass of iron on board had, upon the Magnetic needle.
My situation was that of Asst. Surgeon, to which Capt. Ross
added that of Botanist, the other branches of Natural
History devolving upon the Surgeon. As Botanist,
my outfit from Government consisted of about 26
reams of paper, of three kinds, Blotting, Cartridge &
Brown, also two Botanical presses & two of Mr
Crawford's invaluable cases, for bringing home plants
alive, through latitudes of ^{different} ~~opposite~~ temperatures.
I was further, through the kindness of my friends,
equipped with Botanical books & microscopes to
the value of about £50, besides a few volumes

October 4th. Lay off today with the intention of putting out the
V awaiting favorable gales. Observed numerous Common gulls &
several of the Black-bellied G. both old & young. The latter seems
inclined to settle on the water when feeding than the former. The
B. B. gulls we are likely to see. Every day they exert much farther &
saw lots at Madras betw. 12.

Loaded with 95 fathoms. Bottom composed of comminuted
shells with grains of quartz &c.

~~Saw plenty of B. B. gulls at Madras~~

2

The branches of Natural History & General Literature.

At Lillingham the "Delia" overtook the "Terror",
our sister vessel, equipped in all respects like ourselves
& on the 24th of September we left ^{that place} Lillingham in company,
& anchored that night at the Inn a few miles
below the town. On the following morning we
were taken in tow by H.M.S. "Herald", as far as Maygate,
where we dropped anchor, despatching an officer to
Deal by the steamer ~~to Deal~~ for a new B.B. Anchor, in
lieu of the one which we lost at the Inn.

At Maygate we were detained by contrary winds
until Sept. 30th, when we had a final adieu to the
Shores of England. - During our cruise in the channel
nothing took place that struck me, as a naturalist,
except the appearance of some land birds near the
ship: a sand Martin flew about us when off the
over's light, about 12 miles from land & a wren,
when about 7 miles distant from the light. -
the former I am aware a very common case, but surely
7 miles is a long flight for a wren, even though aided by
the gales, ^{note of them} it did not light upon our rigging.

Oct. 6th Lat. Long. This ship passed through a
beautiful luminous patch, about 50 feet long, at 11¹/₂ P.M.
The communications of the central part were described to me
as very brilliant, the weather was calm, but the patch
is ^{narrow} ~~small~~ that the ship had passed through it before
the water could be collected. On the following morning

This little pet was well & lively until reaching
Madison when it died.

numerous Donuts were seen & Mr Smith observed a
Goldfinch & Thrush flying about the rigging, where they
alighted & picked up crumbs near the gun coops. 3

October 7th, 1887. Today the Captain sounded with 300 fathoms
- no bottom. - Thermometers were sent down with the chain.
Water very slightly luminous at night. Some that I
examined contained numerous small gelatinous spheres,
apparently flattened, of irregular shape varying from the 3-500
of an inch, they presented no appearance of life: the water
also contained ~~numerous small~~ what appeared under
microscope of 250, little points, skimming with great rapidity
through the fluid.

October 8th. Lat Long. Two water wagtails were seen
flying about the ship. One of them was soon afterwards
found dead in one of the boats. It was a female (part. spec.).
The muscles of the Thorax, as well as the lungs which were
collapsed presented the appearance of violent congestion.
The stomach & gizzard were quite empty. On the following
morning, ~~the~~ ^{the} was caught alive, but quite exhausted.

October 9th. Mr Smith caught a finch on the rigging.
I am not aware to what species it belongs, it soon recovered
& is very tame, sings at times, perhaps the *Tringilla*. -

On crossing the Bay of Biscay we have experienced heavy S.E.
gales & long swells, the water was constantly slightly
luminous, or rather sparkled as the ship passed through
it. No sea animals but a few Porpoises have been
seen. We have been separated from the "Terror" since Oct. 3rd.

October 16th Lat. Long. The fine breeze that has carried us on for some days, has left us. The cutter was manned & sent to pick up a log of wood that was seen floating at some little distance, when brought along-side the numerous small fish & young Dolphins that were feeding around it when the boat approached it, had disappeared. The log was of ^{dead} ~~fresh~~ about 8 ft. long, covered so thickly with Barnacles (*Tepas anatifera*?) that no part of the wood could be seen, but by removing some of these cirrhopods, yet it could not have been very long in the water as it was scarcely at all bored by the worm (*Teredo navalis*). The only other animal inhabiting it was a small crab, (*Tesarma Pisonii* M.D.) that existed there in thousands; the specimens were in all stages of growth, & except in form, no two specimens resembled one another. The young were very small, 4 line long, quite transparent, with two strong tubercles on each margin of the shell which presented several elevations & depressions. The most remarkable character I observed in the youngest specimens was, that the five abdominal segments, which in the old specimens are turned ⁱⁿ ~~back~~ upon the Thorax, are used as natatory organs, the last segment especially. The palps feet & prehensile organs of the snail were in constant motion. This species is very active both in & out of the water, it swims well, by striking the water with its flattened legs. A more variable species as far as regards the color cannot be conceived, the young are generally transparent with a very

Sesarma Pisonii: Three extreme varieties & young sketched.

These steps are artificial & support the buttress of the vineyard.

feet bluish or pink tint, the older specimens are reddish or olive-brown, spotted or variegated with darker tints, some have one large, or two smaller white marks covering more or less of the shell. The crochets being, to the first joint of the claw is a very slender process.

None of the specimens exceeded an inch in size. (See Proc. Acad. Nat. Sci. Phila. 1871). The Antilles are given as the station. This species is Pinna Edwardsi Dist. but also Pinna.

October 19th To day saw the first Stormy Petrel & Lark. neither before, since leaving the coast of England & have seen no sea-birds.

October 20th At about 11 A.M. the land of Madeira was first discovered. As I was within a few miles of the Island it presents the appearance of a bold rugged coast with some detached islands at the Eastern extremity, it put me much in mind of some of the Islands upon the W. coast of Scotland, the Islands of Lorn, Kerrera, Sherna &c. The mountains appear very high & are clothed with vegetation to nearly their summits. The tops of the lower hills were capped with a species of Pine (P. pinaster) in detached clumps, ~~down the sides of the rugged rocks like immense roads or gorges~~. There is very little beach except at the foot of the crags, the steep volcanic rocks coming down into the sea, they are of a rusty red tint, the green slopes are full of parallel steps like the steep fenders upon the Scotch hills but much more numerous & regular.

The bay itself appears a most insignificant village
almost hid in a forest some close to the sea, the
houses are all white washed with large black roofing
tiles there is a little wood about it.

The hills about the bay & indeed along the whole of that coast are full of vines and, in each of which there is a small scarcely visible hut & very soon after a large white frame house. Higher up, the Pine & large trees appear, while the summits of the mountains are broken into conical peaks with deep ravines between them & here & there a little cascade clothed with brushwood.

At 12 P.M. we rounded Cape ^{Praya} & entered the harbour of Funchal, where we lost our fair wind & after being baffled with light breezes, came to anchor close to the shore at 3 P.M. The mountains above Funchal are very high, sloping down at each side to the horns of the bay, which is much exposed. The town consists of a great many low generally two storied scattered houses, some being along the base of & all the steep hills, they have often steep hanging gardens at their backs. Higher up are the gentleman's seats with large gardens & shrubberies & vineyards &c. Still higher the hills are covered with wood & the white towers of the ^{church} ~~basilica~~ of Nostra Senhora seem to hang midway between the tops of the mountains & the sea situated in a thick wood. Two precipitous ravines descend down one on either side of the town. The tops of the mountains are very precipitous & ^{often in the clouds} ~~suffused~~ ^{generally} covered with heavy clouds. Soon after entering the bay we

All the fossils are very large many *Trilobites*, at *Truro* etc.
they are very small.

The Laves at the Landing place - black & porous but very hard
a little to the westward the rocks are somewhat columnar
a section of the cliff showing numerous parallel perpendicular
angular columns slightly curved.

come him - boats came along side with grapes &
 oranges, lemons, Portuguese ^{yellow} & fine large
 red looking apples, a most gratified sight after being
 for 3 weeks upon salt meat. The crews of these
 some Portuguese they wore no national costumes, but
 sometimes a white cap, with a long peak, of blue cloth.
 These I afterwards found were worn constantly
 when both by the men & women.

The latter ^{hang} wearing a handkerchief
 over the ^{hairs} ~~hairs~~ ^{carabao} as it
 is called & pressing the peak down
 into the form of a horn projecting
 over the forehead.



^{Monday}
 October 21st This afternoon I landed on the Salado, beside
 some steep Basaltic rocks, up which some steps are cut,
 to the westward of town. The streets are both broad &
 clean for a Portuguese town, paved with small rounded
 stones set on mud & a water course down the middle.
 The houses are regularly built, white washed. Those of
 the better class of inhabitants are furnished with painted
 balconies. There are numerous gardens in the town
 where the Hibiscus rosa sinensis, Heliotropis, Daturas
Lambina, Ipomoea Ipomoea, after throwing their
 branches over the garden walls. Here & there are date palms
Phoenix, persea canes &c. There are four very rapid streams
 run through the town, they are walled in with very high walls

I am

^ The ... in with ... forming a sort of ...

^ Cartes triangulaires, ...

of the London Universities

When the rocks prevent this, they are covered with
Limo (Calceolium myriophyllum & the sereno sereno
The gardens of the poorer classes are generally filled with
Vines & pumpkins, pears, gourds, Bananas, sugar cane
& oranges. The ^{leaves of the} stem of the Banana are made into
baskets &c. There are no large trees near the town
except such as are cultivated in the gentlemen's gardens.
& there are generally tropical & semi-tropical plants.
The public buildings are very paltry. The shops hardly
sit upright from their resemblance to houses. The lower
stories are generally uninhabited & the doors left open &
the windows grated. The Church or Cathedral is a
particularly plain building but contains some
valuable plate. The lower class of people consists of
carriers, house & bullock drivers Porters &c. In the morning
they give a daily business time by bringing fruit baskets
bird cages &c. to market where the auction of two or three
lots (a lot is 50) keeps them & the family during the
day. They eat no ^{fresh} meat, but salt fish & vegetables.
The bullock drivers harness a couple of these animals
to a sort of sledge, which is the
only ~~kind~~ means of transport
for heavy baggage, as the uneven
streets of the streets prevents the use of any wheeled
vehicle, indeed there is but one in the island, & that is
owned by the owner. The ^{only} means of sailing the coast

A piece of good skin or best swat is made to answer
the same purpose.

these slip over the streets very easily, but when they meet
passing, the large drivers cut a piece of gumtree & let the
slip pass over it. Some of the streets are lined with
plane trees which form an agreeable shade. The
boatsmen form another class of the lowest order, they
are always fighting dirty & often even fighting, their
boats are painted of fantastical colors with high stems
& stern posts.

The middling classes consist of young Portuguese merchants,
shopmen, clerks &c. The upper are chiefly English when present.
The houses are in the town & their houses or quintas are built
or two up the hills they almost never walk, but ride on
the same porter horses of the island. The muscades are carried
in small palanquins, just large enough to lie in &
carried by two men. I was much struck with the
general tone of civility that pervades even the lowest orders,
even among their boats to one another & their superiors.
Soon after landing I was turning into a wrong street
that did not lead into the town where a little child
immediately guessing where I should have turned, quite
spontaneously put me into the right road. I wandered
about for some time as there seemed to be nothing
to be seen, I tried mustering as much English with
Portuguese & terminations as should put me on the way
of finding an old friend of my father's, a Mr. Brown. All was

A great deal is made of the Island Making way, Leaves
driven & L. pictus. the Till or Tila wood.

Crushed shell gives the red color and is used before fermentation.

was waiting until I came to the house where my mother-in-law
 remained him English, & having ascertained the truth of
 my conjecture by a plain question he afterwards told me I
 was standing at the door of Mr. Brown's place of business. I
 accordingly went upstairs I was most cordially received by him
 & his son who invited me to take up my abode with them.

He took me to Dr. Lippert's house immediately opposite his
 own, & invited us both ^{to} ~~to~~ ^{to} tea. After sitting
 some time with the worthy Dr. whose joy at seeing me seems
 unbounded, I got my hair cut by a Portuguese in true English
 style & set out for Mr. Brown's Quinta about a mile from Town.
 The passage by some dreadfully steep streets through the outskirts
 of the Town I received a hearty welcome from Mrs. Brown & her
 two sons. From the stupor of the hills on which these
 Quintas are built the first floor is generally occupied by
 the servants, ^{dining room} whilst the drawing room windows open
 open out into the garden, thus the front of the house is two
 stories higher than the back. The furniture of the house
 is of solid wood, chiefly chestnut & looks very beautiful
 except that the servants are Portuguese, these Quintas are
 hardly to be distinguished by their interior from English houses.
 The French Madeira wines were set before us in profusion
 of them there are 4 chief kinds. Three white, Madeira,
 Malmsbury, & Tinto, one red, Tinto. The Malmsbury & Tinto
 are the best. I went to the back to drink much of
 the 15. I was served with a red grape. The white
 indistinguishably from the red or white & I shall call them



21

The windows of the gentlemen's houses are always left open during the evenings, which keeps the rooms very cool. The Prince's house commands a beautiful view of the town, which from the clearness of the night was quite visible. The white houses seemed to descend from us down to the bay, which was perfectly calm. The "Dublin" & "Terre" being just visible I bore into the distant horizon, which from the height we were, seemed very distinct. The noise of the cricket at night is very shrill & from their numbers a perpetual whistling whistling noise is heard. The streets we left the Prince's at about 10 & returned to Town. The smell of the fishwives & butchers was at times quite overpowering. The streets appeared quite deserted, but soon & then on passing a house, I stopped & listened to the guitar which is at times very beautifully played by the Portuguese women. At the Prince's house we were desired to stop, & as one of the young ladies to get into boat, but we were not allowed to get off as easy, we were immediately invited upstairs & supper set before us, with tea, wine & brandy & in conversation I could hardly get away after waiting in house & looking over English matters with my friend (Gorodine) whose brother had been a fellow student of mine. I only succeeded by saying that my penman was required on board. After seeing the country I left the house, for he seemed to think the wines very good. I showed off & enjoyed a half hour's walk in the ships with a boatman who spoke Portuguese with great volubility to me, & was all along quite content with the answer "no Portuguese - English".

In justice to my kind friend Dr. I must say he was never known
before to have welcomed any one to the Island as he did me for
seeing no other way account for the state he was in.

This garden is described in a manuscript of London
written by Dr. Lippard.

Tuesday Feb. 26th. In the morning Dr Lippard came off 12
 I took an early breakfast with me, he was heartily commended
 of his last night's work & said, "it was no chance but he"
 We dined together I with my large box & paper Portfolios, and
 I left with at a house in Town, & started for the back of the Town
 On our way we stopped at Dr Runtou's the largest plantation
 here. He has lately married a lady who I used to know well
 & pleasant as Mrs Montgomery & Ambleton, she is still a most
 delightful person & looked upon her as the head of English
 Society, I smelt of a life of hospitality, industry & charity
 can make a person beloved she felt desirous to be so.
 After paying our respects to Dr Runtou & his Lady & ^{making} ~~receiving~~
 a promise that we would return to dinner by 4 o'clock
 we left to look over the garden. What abundance of rare
 foreign trees & plants! On entering, the first thing that struck
 every one is a splendid Tulip tree, about 60 years old.
 The garden besides contains splendid Magnolia trees & plants
 of *Camellia imbricata*, *Eucliptus robusta*, *Cecropia palmata*,
Prosopis japonica, *Carpinus japonica*, *Metrosideros* sp.
Cassia acuminata, *Ch. Johns* bread *Salicornia elizana*,
Helicula platyfolia, *Myrtus Pimenta*, *Dracena Draca*,
Crucifera Wallisiana, *Celtis occidentalis*, *Pragnolia*
grandiflora, *Cupressus glauca*, *Cycas circinalis* in fine specimen
 Mango, custard apple & other tropical fruits flourish here in
 profusion. The walks were covered with *Adiantum* esp. *Rea*.
 After leaving Dr Runtou's & Botany at the back of the Town
 my new cabinet was so filled that I was obliged to return
 & deposit my plants in my Portfolios. On my way back we
 called on Mr Davis & were introduced to Miss Davis who
 at first sight a very pretty but somewhat girl. My son left & I

I have called upon Dr. Low. The Visitation stopped here,
and has been long known as the first naturalist in the
Island. Although he has chiefly attended to Botany & Geology,
but is at present more engaged in the fishes of the island.
He very politely expressed his sorrow to me, for not being able
to pay me more attention, pleading the multiplicity of his
other engagements. I went afterwards however, received
a note from him, inviting me to his house, I was not then
in a state to accept of his kind offers.

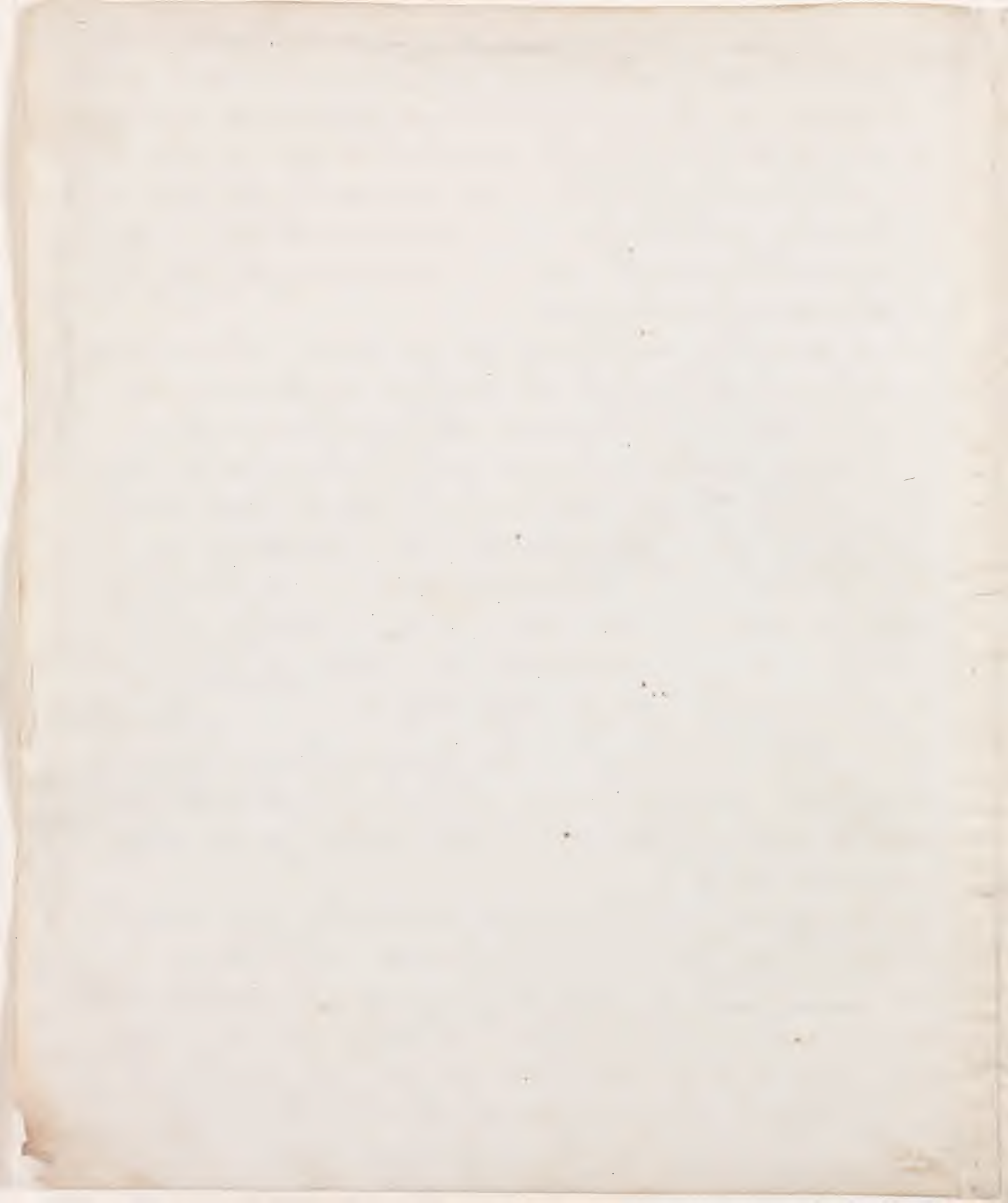
x L

Paristaria L.

Spent an hour with my poor old friend Mr Hally. He was
looking somewhat of then I felt his poor fellow is dying
& he knows it he seemed so most affectionately & was much
pleased at talking over old matters with me, he said he had
not had such a pleasure since he came to Madeira, his
sister a very affectionate girl is living with him. Whilst
returning through the town I observed a Glasgow face in
Dr Henderson of St. George's.

On my arrival in town I laid out my plants I immediately
we walked forth to visit the rocks at the west end of the town.
Our walk was a very tedious one through the sun, but we were
rewarded on arriving at some black volcanic rocks which
came out into the sea, by finding Lithospermum, Phacelia,
Antennaria of Hesperis etc. Matthiola etc. &
Helianthus, — a very beautiful hairy plant. A species
of Urtica also grew there but it was in such a state as not to be
worth gathering. Platanus of Plantago coronopus
was very common, most of these plants were in a very bad
state. On returning by some hills I found a curious
Euphorbia ^{supra} hirsuta as a Cypripedium & several other plants
new to me. I again gathered two bags & by our return it
was quite dark.

At Dr. Ranton's I met several gentlemen, all I believe
except one Mr. Sherridge, whom sister I had known in Glasgow.
The conversation was wholly upon Glasgow or British & Mr
Sherridge had a long discussion with me concerning the res-
pective merits of the Almond & the Prunella etc. I returned with
energy & the cause & I supported the former, much more warmly
than I should have set home, perhaps. — After dinner I



not deep pressing the coffee. I was surprised to learn that
it was the production of Dr. Watson's garden, all the coffee used
in Madeira is Island produce, it is equal to the best Mocha
It is always roasted & ground in the morning of the day on which
it is used. Whilst we were sitting at tea a message
was sent in from a neighbor that a very beautiful Aurora
Borealis was to be seen, we accordingly all sallied out to
the drawing room windows that opened into the garden
behind, to witness this for so southern a Latitude, grand
spectacle. There was the light in the direction of & seeing
the appearance of a true Aurora, but whether it was or no
is still undetermined, the gentlemen present all declared that
it was occasioned by the burning of woods at the back of the
clerical. It had been observed by Capt. Pop & the crew of the "Finn"
also by the "Linn" 200 miles to the N. of the Island. By 11 AM
was in rain again having picked up my plants at 9 o'clock
on my way.

Wednesday, October 23. An excursion had been planned for some
weeks before reaching ^{Madeira} ~~the Island~~, that three or four of us should
together visit one of the most romantic spots in the Island,
the Corral. This morning was previously agreed upon & General
Don Meire made kindly volunteered to accompany us & to see
that we were well provided with horses &c. At 10 AM a party
of four of us were along to order & then embarked in it
in a small 3rd class boat. Mr. Wilson, R. A. Royal Cape Barrington
Mr. Smith senior Master & the Pilot went. We met at Don
Meire's town house, where there was provided for us in the
back room a splendid breakfast with Fish, Eggs, Bananas
peaches & apples. Mr. Meire soon joined us & after breakfast we
were mounted upon small horses & pursued our journey
thence to us. We soon galloped through the town, though Paul is

As the calling saw for Lane the office of the minister of
the church at the college in some way possibly that his duties
prevented his showing me any attention. A week afterwards
however he invited me to his house this invitation however
I was prevented from accepting.

Near the outskirts of the town we passed the European is rather
British looking ground, a very pretty enclosure, planted with
Plane trees & cypresses. It struck me as peculiarly melan-

choly spot, where so many were laid, far
few than honest friends, who had come, &
ever went out in the full hope, that Madeira's climate was to
cure an incurable complaint. It cannot be said that the
rich & poor lay promiscuously here, but almost all are crushed
down by one disease which nature has planted too firmly in some
soil to uproot. Others again have fallen martyrs to the town, our
school a home of an honorable study whilst the only other class
of that perhaps the largest, have thrived there even fully, even
the seeds of their own destruction, in what was otherwise a healthy
home. One lay there who I remember having shown me much
kindness: my childhood friend Thomas Poirer & beside him his
sister Catherine, a pair that had fair to be ornaments to
the society.

against orders, the Englishmen gave the principle of "catch
me who can" "then fine me". The road led us in sight of the
sea, & the two towers of the tower; at first it was pretty good
but we soon had steep rises & descend & descend ravines by
the most ^{except a foot} barren & narrow roads that I ever saw a four legged
animal go upon. Wherever there is a river here it runs through
a very steep & narrow when, sides are generally covered with
hanging gardens & vines, and the cottages, seeming to hang
upon any ledge, surrounded by trellis work with support
the grapes, pumpkins & gourds. The bottoms of these ravines
are covered & entirely green with the gum leaves. In the water
of the river, the washer-women are often seen wading in the
water & washing their clothes by rubbing them, not with soap,
but with stones with which they pound the linen most un-
mercifully. We visited the inside of several of these huts
& found them crisscrossed - the extreme, worse even than the
most wretched I ever heard of. Sometimes they possess
a fire, generally a clay or very fine soil. We were just engaged
at the 12 hour day manner in which our own porter pos-
sessed us up, & down the steepest & most insecure places, they
generally descend slowly by pushing their steps very carefully
but they will ascend the steepest ascents at a full gallop
jostling the unfortunate rider most dreadfully. Our guides
displayed nearly as much sagacity as the ponies. When ascending
they held on & derived much assistance from the horses tails,
whilst no sparing whipping or other means with respect
the poor animal to kick out behind & aid going. This in-
crease. At another time however you are looking behind
your own as guide & thinking that - in opportunity, start

Very few of the houses are tiled but as we have red curved tiles
like old-fashioned English ones & built on the roof by means of laying
large stones upon them.

From what I afterwards heard I suspect whether the heat
be not confined to the very high mountains.

off at full gallop, when on turning some corner you find to your surprise your guide waiting on a stone for you, having taken a short cut & circumvented horse & rider. After descending a very steep ravine & ascending a most characteristic Madeira road called "Hill Horse path," we came upon a splendid view of the sea on one hand, shut in by a tremendous precipice, the highest ^{cape} in the island, & on the other the high peaks of the mountains up which we were to ascend. We now struck off to the right towards the centre of the Island, the road was very steep winding along the sides of hills, through vineyards, where trillium hung out way over the road. The banks on each side were adorned with the China rose, *D. multiflora*, & beautiful *Yucca* & *persea*, which delighted me beyond measure. After ascending about 2000 feet we entered a large glen of the most romantic description. The mountains on each side were split into peaks & their sides covered with forests of small chestnut trees, amongst which we rode. The sides of the path were overhung with (perhaps *Erica arborea*?) a fine *Physocarpus* several *Labiatae*, *Picea maritima*, *Am. myrtifolia* *Belle glauca*, *Yucca* & *Dr.* A pack of three or four mules brought us to the "Jardine" a country seat belonging to Mr. Vetch late British Consul here, most beautifully situated in the Chestnut Forest, among the hills. We were met here & were conducted over the grounds by the proprietor himself who paid us every attention & wished us to spend the day with him. The view the highest at which the "Jardine" is situated is

structure of the Sarcosine according to Major Saline.

Each of the seeds is somewhat triangular than differing
from those of the Leas, & both there are there is a capsule
except by abortion.

throughout the year of a temperate climate. I could not but 17
be that the vegetation in this amount is much altered, with
this peculiarity that here it never freezes. The mean annual
temperature is 62° 10 degrees higher than that of Fennel.
The soil is composed of a fine vegetable mould over Pkamin
detritus. The ground is every where covered with chestnut
trees one of these which is about 9 feet in diameter but
just decayed. Neither Pkamin or the chestnuts will grow
here. The climate seems peculiarly well adapted to the
cultivation of Chinese plants, Camellias flourish, among
other kinds we were shown the rare Camellia oleifera
which we were informed has been the oil used in China.
The soil was certainly very rich. The success with which
Mr. Smith cultivates the tea plant is most remarkable, so
happily situated is the garden for growing that plant, that
the above mentioned gentleman has formed a project for
making tea in Madras & thus cutting the E. I. out of the
monopoly of that article. He has paid the greatest attention
to the subject of the cultivation of the tea plant, has had
authentic specimens sent home & made the different kinds
by seed & cuttings with great success. He kindly showed us
over the plantation & most liberally allowed me to take
specimens of each kind, with one proviso only, that I would
not give the seed or cuttings to any merchant in the island.
The plantation consists of 300 or 400 of these different
kinds of tea chiefly however of the black & green. They
seem to be reared with very little care, some of the kinds are

Sept. 30th

Mr Bird the 7th Lieutenant tells me that he has just returned from the Corral has tasted Mr Vitch's Tea & pronounced it & excellent. Nov. 3^d. Capt Crozier tells me he has often drunk Mr Vitch's tea & that formerly it used to be so bad that some civility could hardly tempt him to swallow it, but do the other thing, but that when he tasted this time was very fine tea indeed.

* When first discovered the Island was covered with wood which was afterwards burnt down. The conflagration lasted during seven years... in Penny Golepudia.

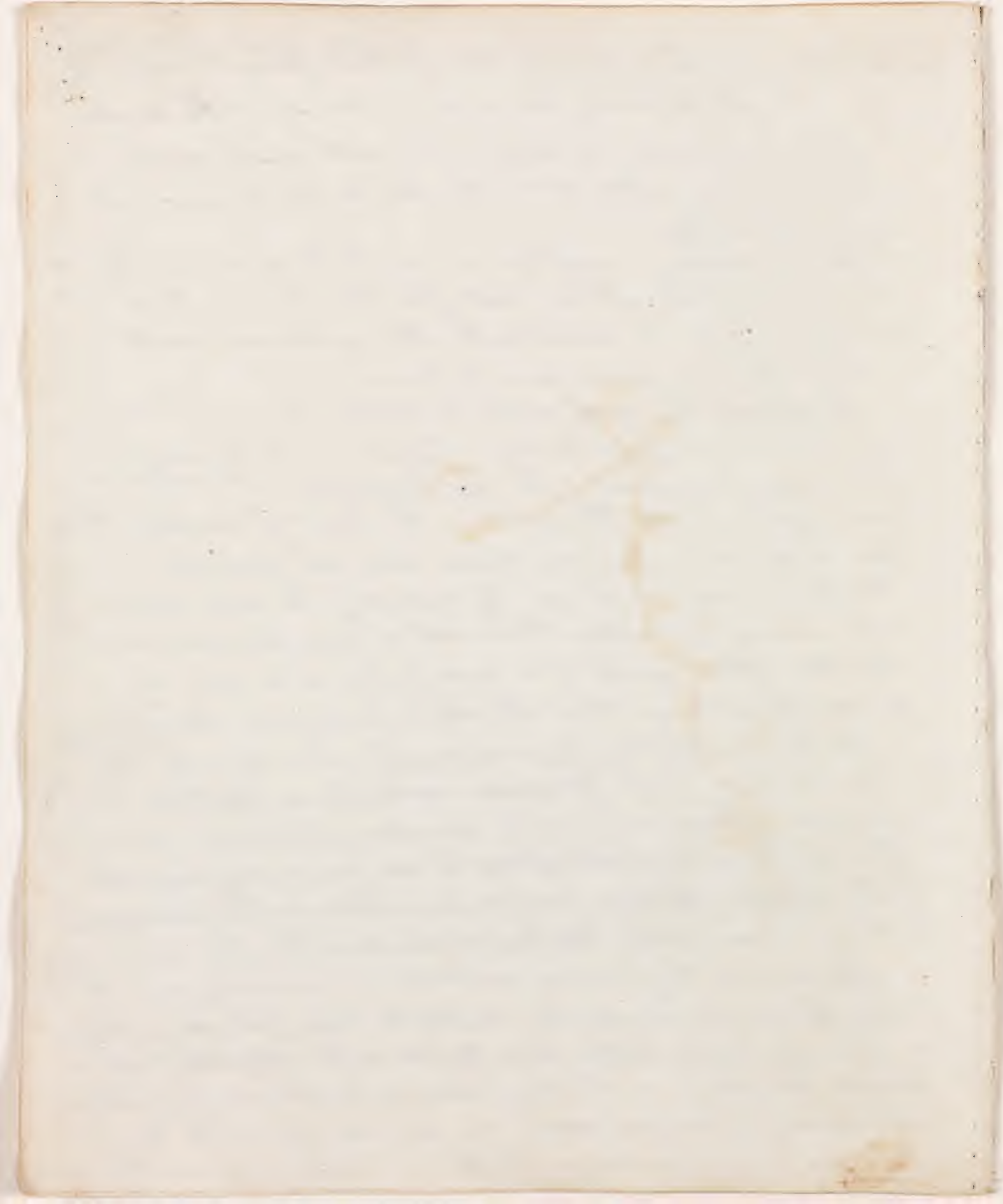
green
black especially being in every stage of bud, flower & ripe 18
fruit. The following are some particulars of the shrubs.

- 1st The Sasanguak. A shrub with rather fleshy ovate leaves of a pale yellow color. As a Tea, Mr. Vitch finds it perfectly useless.
 - 2nd The Gunpowder. Somewhat similar to the last but the leaves less thick. The Tea made from this is very good.
 - 3rd The Green Tea. A shrub with thin yellowish ovate leaves, bearing abundance of flowers & fruit.
 - 4th The Black Tea, with ovate-lanceolate leaves, of a very green color & of a firm texture. & girgaly branches the flowers of
 - 5th A very fine shrub of the Pha. purpurea, with which we were informed the Chinese are in the habit of scenting their Tea, a practice which Mr. Vitch does not approve.
- The Tea is prepared for use by collecting the fresh leaves not so young & putting them into a large funnel of tin they are then exposed to a heat of from 90° to 100° by gradually stirring them the dried leaves fall through.

The owner naturally prizes his Tea as equal to the true Chinese Oolong. Mr. Vitch informed us that it was valuable & pronounced so by every one who has tried it.

The only other remarkable plant I saw was a very fine tree of the Supropia glauca of which I was told all the old houses & temples were built. The tree is now extinct.

After leaving the "jardine" we continued ascending up the valley for about 500 ft. the Chestnut Trees, grow smaller & more scattered, until they disappeared altogether, the ground was covered with short herbage & Poona of a stunted description (Optunia repens). We now emerged at the top of the Valley & were suddenly attacked by a party of pseudo Highlanders.



of Madeira, a party of ragged dirty half clothed Portuguese
 each bearing a long iron pointed climbing pole, with which
 thinking no doubt to do us a service, they ascended our ladders,
 causing them to shake & spring over the banks & rough ground
 so that what nearly rendered our seat untenable. This was
 done, ^{at} after we supposed for effect, for at the top of the valley,
 we suddenly came upon the most splendid scenery that I ever
 beheld. We stood upon the brink of a tremendous precipice
 that formed one side of an immense gully, the sides were so
 steep that nothing of them was seen in looking down, but the
 tops of the overhanging trees at the bottom, about 2000 feet
 below our feet, ran in almost imperceptible lines rushing
 along among rocks & stones. The opposite precipice, about
 $\frac{1}{2}$ a mile distant, was much higher, & even more steep
 than the one on which we stood. To the right, the valley
 continued, bounded by tremendous precipices & topped by peaks
 of snow, till it was terminated by the Town of Funchal
 about 10 miles off, & the sea in the far distance. To the left
 the valley seemed to branch into two; its precipitous sides
~~there~~ were tremendous, almost steep, & rose into sharp peaks,
 one of which, the Pico Ruivo is the highest in the Island
 the mountain. These were covered with clouds, broken masses
 of which crept the precipices, at what appeared to us a
 very low elevation. The height of our position was about
 3500 feet. The sides of the precipices were covered with
 scattered trees of Laureus foetida & L. molle, whose deep
 green leaves added a gloom to some places while they seemed
 to clothe the otherwise naked rocks with verdure. The whole
 scene very much reminded me of a view in the Mountains of



Abundant here, when you come suddenly upon the Glen of the Dole, Glen Pluie stretches away on one hand, & on the other, you look down into the broad valley of Clova. The present scene was however infinitely grander, whilst the black or reddish colored basalt of the rocks, & the numerous Laurel trees give it a different aspect. The river clashing at the bottom which looked like a mere burn, whose course was scarcely heard from the distance, for it is longer Scotland to my mind, it dashed along quite white with foam, just like the White-water, ^{even} the bottom of the Glen of the Dole.

Further the name Corral Corral struck me as the same as Corra, a corruption of Caledon (I have been informed), a name that is given to large, scooped-out-places, so to speak, in the sides of mountains in many parts of Scotland.

I have commenced looking out for alpine plants, but from the extreme barrenness of the rocks was quite unsuccessful. A few mops out of fruit, apparently *Fraxinella* & a large green young *em. annua* grew among the barren rocks also several withered species of *Ledum*. The ragged Highlanders, for I can call them nothing else, were most troublesome, incessantly offering us their climbing poles & begging, seeing me scrambling among the rocks they paid me particular attention. A couple of bearded cut-throat looking fellows in particular with high peaked carabosles followed me very close. On one occasion, when trying to reach a bit of the *Laurus foetida* over the edge of a cliff, they commenced laughing out to me most vociferously. On finding this had no effect, one of them descended the cliff after me & standing himself, insisted upon holding my arm.

A Island Brand is very bad.

After amending the bill. A. S. M.

but I should fall over, I could not help giving the fellow
 a pistol for his voluntary, though unpaid services.
 On ascending, I found my companions surrounded with
 about 20 of the most extraordinary little female children,
 of all ages from 3 to 12., dressed in habits with little Caribbean
 their long hair streaming over their faces, which were of a
 most determined Portuguese cast. They were all very dirty,
 & excited our compassion by kneeling & lifting the hands
 together in the form of prayer. Some of them were really pretty,
 though very coarse featured. Among them was a very old
 woman, whose husband had been lost among the cliffs, or
 rather killed. They seemed all remarkably healthy, though
 they live on the most wretched roots, & feed upon chestnuts,
 scarcely ever touching other food. Even the little babies were
 sucking chestnuts. The Climate here was quite cold &
 as Mr. Penn, Mr. Wilmet & myself kept ascending on
 foot, along the edge of the cliffs, we experienced a regular
 North wind. Among the mountains we met several parties
 of men, carrying wine bags made of the skins of goats, they
 were carried over the shoulders. The men appeared very
 picturesque for the Caribbean, long feet & the trousers
 tucked in at the knees, they wore buskins of wash leather.
 The wine they now bring, is supplied by contract, for making
 brandy with. They carry their loads from different parts of the
 Island, through the steepest & most mountainous roads, for
 an immense distance.

We did not ascend far, but soon rejoined our companions
 who were seated on a grass bank, where we had left the horses
 & where there was spread for us a famous cold luncheon prepared

I saw very few insects, a large Jay, a small crow near
the summit of the valley. Thrush, birds were swallows &c. first
which I take to be the green canary bird it hopped about
the woods with great agility. On animals but goats.

+ L60 Dear mine.

for us by Mr Muir. By the bye, I forgot to mention that 22
 a Lippard had joined us at the top of the valley, & certainly
 he amused us during dinner. The young half savages of course
 clustered around us whilst eating, forming a ring, which
 gradually approached & hemmed us in. Now the little German
 abhors the Portuguese beyond any other nation, & he could not
 brook these superstitious archers straining near us. He used
 accordingly, every now & then to start up, take his stick,
 shout, hoorosh, shake his coat tails at & scare the poor
 little rascals out of their senses, who ~~would~~ run up the hills
 with amazing agility, their scanty clothing, ^{tripping &} causing them
 to tumble over & over as they scrambled along, on all fours.

After taking a last look at the Corral, & distributing some
 few pieces among our young friends, we also decided, varying
 our route a little from the way we ascended. Our poor
 willing little ponies galloped along without whip or spur,
 they are certainly the most extraordinary animals I ever
 saw, some of them worth a good deal of money. We returned
 to Mr Muir's to tea at half past 6. We passed there a
 most delightful evening. A Miss Shepherd a very pretty girl
 was the only stranger there, she favored us with some ^{finely} ~~finely~~
 airs upon a very small full toned guitar, such as are used
 in the Island, the tunes I recognized as having heard ^{played}
 by the natives on my return home ^{on board} on a previous evening.

At a late hour we returned on board, I later with plants,
 & we all agreed that from morning to night we could not
 have spent 12 happier hours. Mr Muir's family especially
 rendered our evening, like homes to us, so thoroughly happy
 did his attentions make us.

This Mountain was examined by some of the party, one of whom
brought a specimen of Opodite from it. - Mr McSweeney told me
he found some Augite. There is a curious basaltic dyke where
it shows from the surrounding soil being washed away
steeply like a wall. Mr McSweeney from a description
I write tells me that it is composed of columnar joints and
my sketch is copied from Mr Wilcox's list the P. Madisonian
group. it is called Homium in P.

Wednesday Oct. 30th. Withste, since my excursion to the 23rd
 Canal, I have been confined to the ship for its health. -
 & the natural Mr. Poirer came off to see me, bringing an
 immense basket of grapes & oranges, Dr. Lippold also paid
 me several visits, & among other delicacies, gave me a jar
 of jelly as rather from made & the berries of the Puccinmon
Madagascariense, the taste was quite that of our P. myrtillifera.
 Several parties came off to see the ship, among others a
 Mr. Andrew John^{son}, who introduced himself to me as an
 old inhabitant of Norwich, who had known some of my
 Grandfather's most intimate friends. A fine excursion was
 made by some of the party to the N. part of the Island,
 they brought me a few plants on their return, among others
 a specimen of the Puccinmon Podocarpus & Erica arborea
 both from the Pico Ruivo, the highest point in the Island
 at 5900 ft. The latter plant grows nearer the summit than
 any other. Another party that went to visit a bed of shells
 & some fossils? brought me a few specimens of a Polygonum
 & Umbelliferous plant.

This forenoon I managed to get ashore, a horse was
 waiting for me in the town, on which I accompanied Mr
 Wilmet & Leproy to St. Antonio's, where after showing them
 the wonders of the gardens, as well as I could, I went to
 Mr. Poirer's house to dine at 2 P.M. After dinner, with Miss
 Poirer & Miss Shepherd I visited the two monasteries. The one
 Convent of Sta. Clara, is where the celebrated Clementina spends
 her life, we did not see her. The other themselves disappointed



one by saturating shockingly. They were draped in black, with white linen veils, which were fastened by a sort of 24
snood fitting closely to the back of the head & ending in a
quail with division of the hair in front. We spoke them
through a grating, in an upstairs parlour. After buying
a few artificial flowers, we proceeded to the other convent, of
the Incarnation, it was precisely similar to the former one
only they sold excellent sweetmeats, their flowers were better
Gehusen, they are made of ducks feathers painted of the
proper color, to imitate ^{natural} flowers. I spent the evening
at Mr Muir's with Mr ^{and} ~~and~~ ^{his} wife, several of the
officers came in after tea. - I was shown this evening a very
curious ring, made in, & I understood, peculiar to the Island
it was of gold, on one side were two hands clasped, on touching
a check it opened out into three rings & at the union of each
was a small heart. Had I been another day in the Island
I would have endeavored to have procured one.

Thursday, October 31st. Whilst on board the "Finn" & day, on
my way return to Port Louis, a gale springing up, which compelled
me to leave the bay of Funduk without delay, I am deeply
horrified on board & had barely time to write a few lines home &
a short note to thank Mr Muir for his hospitality to us,
before we were under weigh; & stood out to sea. & thus
ended my plans not stay at Port Louis.

Sunday November 3rd. Very early this morning we got
distant view of the Peak of Teneriffe & by sunset we were
standing off the Town of St. Cruz, the capital of this & all the
Canary Islands. With my glass I at once distinguished the
Phoenix Canariensis growing all over the Island.

The sides of the hills above the town are covered to a great extent
with parallel horizontal lines formed by the walls or banks that support
the vine terraces. They present a most remarkable appearance from
the sea.

Does the Euphorbia grow at the tops of the hills? which were
clothed once with some trees, the Pinus Lemnensis?

49
25

Amurice presents a very fine appearance from the sea; the tops of the mountains are broken into most remarkable spiculae & from them the valleys run straight down into the sea, they are green with Pinus. The rocks Principium of which there are very many, are quite black & very dentate spotted green here & there with the Euphorbia which was the largest vegetable we could see. The town is well fortified, it is long & built quite close to the sea on a platform, the mountains come down quite close to it, which are crossed by the Aqueduct that supplies the town with water.

A small fort is pointed out, as the one from which Lord Nelson lost his arm. If the fort itself I caught only one or two hurried glimpses, during almost the whole time that we were in sight of the Island it was covered with clouds. This evening the surgeon & Purser went ashore, & saw the town, in the Church they saw the two, or called, flags, they are nothing but fags that were taken from the English during our memorable siege of the Island. I made every inquiry concerning the possibility of going to Portau, & seeing the famous Dragon's blood tree, but found that that town is 20 miles from the bay, that it takes two days to go there & back.

Monday Nov. 4th. During the night we have been standing off the Island. By noon we had approached it again we were now about 3 miles to the Eastward of the town ^{where} I landed with the Purser. Mr. Wilmet & Mr. Levey opposite the ship, at the foot of a steep valley. We landed upon a flat platform of rock, with a fine precipice above our

The last eruption of the Island was in 1710 or 1711.

Coraria Pavonia? }
A species of Pavonia } & ^{one} two other sea-weeds.

In the east with pools there grew a very beautiful hard minute
Fucus? belonging to the genus Verdunellus of Blainvillie's
arrangement of Scophytes, he considers it a seaweed: it interests
me as being very nearly allied to a plant figured in the Hist. Nat.
the Fucus ^{pendulus} ~~pendulus~~ Turner, tab. 22 fig. a-e. Polyphysa
australis Turner. In form it is very like the U. mediterraneanum
but much smaller. It adhered so closely to the rocks that I got
with difficulty enough to identify it.

A large hairy crab was not uncommon but too wary to
be caught.

At Twinn's gun, on the N. coast of Ireland, & the Scaphleura's in
the Mauritius are splendid examples of this phenomenon.
Both cases the rocks are Polycrinus.

In afterwards saw many holes through which the air rushed
with great violence. - A beautiful rainbow over the spray.

The precipice was composed of strata of Lava that seemed ²⁶ to have rolled at different epochs one over the other, with underneath was a mass of Pohnian sandstone full of a species of petrified shell & small boulders of trap. It struck all of us that some Pohnian stream of Lava had rolled down from the crater & hardened the black sand into a sandstone.

The platform of rock on which we stood was of this description in it were several large broken pieces of conch shell. It was full of fissures & in deep and communications with the sea. These holes were full of shrimp & small fish, which were however too minute for us to catch. A sea weed, & *Conferve* we found, also a very small hermit crab that with was crawling about with its private house on its back. It inhabited several kinds of shells. An old woman was then collecting a kind of small shell in a basket, whether for food or ornament I could not make out. Whilst stooping down & picking seaweed out of one of the little tide left pools, I was startled by a rushing & rumbling noise under my feet, & on doubting whether the latent fires of the island were setting to work again, I had selected the spot occupied by the water hole & the "Lichen" as a fit one for a new crater. I started up & on looking around, saw an immense jet of water, sent up to the height of about 20 feet, from a hole in the rocks a few yards off me. Iceland & the geysers came to my mind at once & I shouted to my companions to see this phenomenon. After waiting some time we were gratified with a hearty shaking. I need not add the jets of sea water forced by the impetus of an occasional large wave through the interstices & cavities in the rock.

Take this *Phacelia* from remembering a specimen of a *Pubescens*
plant with filiform leaves in Dr. Finley's collection of *Therops* plants,
for which from its remarkable appearance I was on the look out as soon as
I landed, neither it nor the *Asphodelus* had either flower or fruit.

The prospect under which we stood, had growing upon it 27
 some very characteristic plants, among others the Euphorbia
canariensis which wounded the white smelly juice gushes out
 of this species in ~~an~~ ⁱⁿ ~~exceeding~~ ^{large} quantities. The Phacelia
pendula an exceedingly graceful shrub ^{three or two} & a curious Candelabra
 looking composite plant, which rises with ^{little} ~~rather~~ smooth
 round leafless succulent stems to the height of 8 feet from quite
 a feature, & the vegetation of the rocks near the sea. I found
 also a large species of Senecio? Antennaria, Anthemis
rotundifolia, Lactuca arborea & several other plants of a
 sea-side nature. Nothing however grew so large or had so
 marked a character as the Euphorbia, Phacelia & Composite plant.

Of birds I saw only two kinds a Gryllus & a Pontia. Mr
 Hallett the farmer, saw two Star D.

We had not been ashore above 2, of an hour before we heard
 a gun fired, & on looking out to sea, saw the Blue Peter Boat
 for us on board the "Venus", this was good news, as we had
 been given to us till sunset, & we had intended to have waited
 till early on the long. Seeing the gig pulling too and as I
 employed my time in filling my box with all I could find,
 & this I succeeded though the plants were not in a good state.

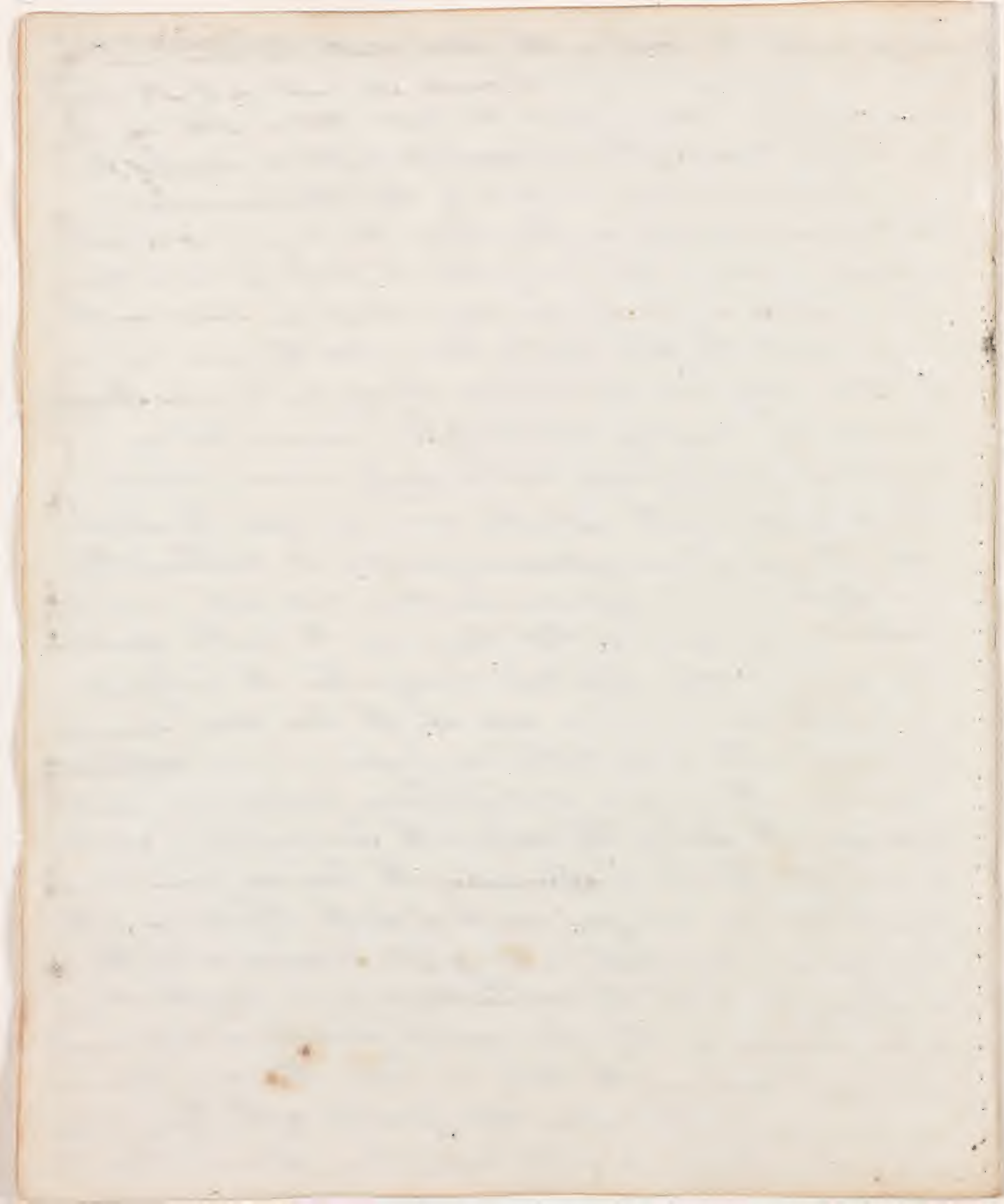
A bed of shells attracted my attention, imbedded in what seemed a
 friable volcanic sandstone, covered to the height of some hundred
 feet with strata of layers of different species. The shells were
 of one kind & fresh water; ~~may it not have been the beds of a~~
~~fresh water stream, over which the Lignite has been passed.~~

The rocks in some places near the sea were porous, in which
 case they were covered with salt from ^{the} evaporation of the sea water.
 All the rocks we saw were volcanic, but of many different forms.

The Captain had altered his mind with the wind & determined to
sail as soon as possible.

For Sulogian on the King of Spain who built it

The gig with Mr Smith & the stern shot, was now near
 there, it halted in telling us to make all haste on to the Cruz,
 when the prisoner was to meet the boat & take a letter bag to
 the British Comdant. The sun was too bright to admit of the
 boats landing & taking us round by sea. We accordingly
 started off at full speed, walking along the rough beach under
 a burning sun. I had barely time to pick up one or two
 specimens as we almost ran along. About an hour's walk
 brought us to the first fortification, where the guns (as in all
 the others I saw) were dismounted & thrown aside, a few Spanish
 soldiers were lounging about dressed in curious looking
 uniforms. We passed some natives, chiefly women, carrying
 the dried wood of the Euphorbia, were sold upon Don Pedro.
 All, old & young, were atrociously dirty & ill looking. They
 wore broad brimmed, stiff crowned, straw hats, with a white
 handkerchief under it, that hung over the back & shoulders.
 They appeared barely a stage more civilized than the Portuguese.
 One or two small fig trees were all the trees I saw during
 my walk. The second battery we passed, a small dilapidated
 building, is the one from which Lord Nelson lost his arm, while
 ascending the steps of the mole at the landing place, about
 2 miles off. The streets approaching the town are broad & well
 paved but very hot from want of shelter. The houses of the
 town are all flat topped, with grates balconies out of the
 windows from which the inhabitants grin & laugh at
 passing strangers. They were mostly painted or white washed.
 Just before reaching the mole, we passed the new promenade,
 an insignificant enclosed area, planted with trees, on each
 side of the gateway is a gilded inscription in Spanish telling the date.

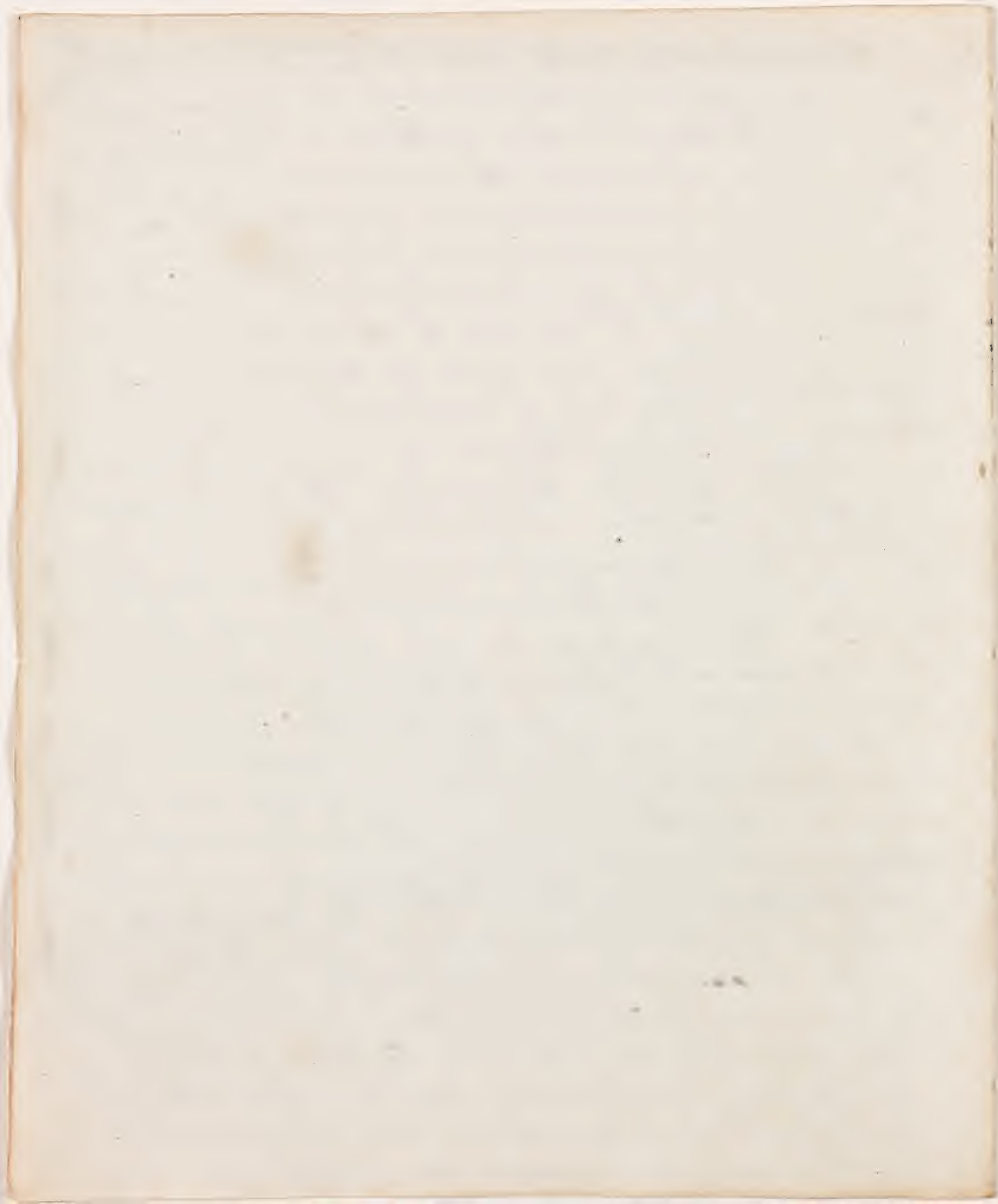


57
29

The Town was quite empty, this being the hour when "dags" & English houses only walk about, the inhabitants were all taking their siestas. After going down to the Mole & meeting the gig we hurried up to the hotel, kept by an Englishman, a poor Irish woman, it was a Moorish looking place & on that account quite new to me, on entering you come to the centre to a square area, beautifully planted with bananas, in the centre is a ^{large} ~~small~~ water tank with a beautiful device of 3 dolphins supporting a shell, in which stood a Mermaid, we paced along one side of this enclosure & ascended a flight of steps leading to a Corridor round the square, in which were tables well furnished with bottles of Porter & Port wine, we sat down to cool ourselves with this wine, & some of the most delicious & large grapes that I ever eat. Whilst Mr. Hallett was running up to the Corridor with the letters, we took a hasty look at the Town, the only remarkable thing I saw, was the Camel used as a beast of burden. There was sitting a very pretty marble cress to the memory of finding some relic of the Virgin. I was most anxious to go & see the English Jews but the Church in which they were kept was too far off. I was much amused by the little arches grinning & repeating the words "English play" when asked where the Parochia was. There appeared to be very few shops in the Town, we went into one & bought some small fish Sardines for the ship, they are about 6 inches long covered with large scales like a Pollock & are prepared like red herrings, they tasted something like anchovies. Except the high crowned broad brimmed straw hats, & then & there a most puritanical looking beaver, I recognized nothing peculiar in the costume of the men or women.

I afterward understood that the Peak of St. Antonio
is 5 or 6000 ft. The clearness of the atmosphere made the
mtn look lower than they proved when I visited the
centre of the Island.

On Mr Wallcut's return from the Comets we hurried down to the
Mole, a long sort of pier built of black lava running out into
the sea. One of the steps of it is shown us that on which Iroquois had
sunk when he was drowned. There were numerous axes here
with collars full of bells dragging large logs of the Pitch Pine (I
was told). The wood was especially rich & full of turpentine, very
heavy & beautiful, it is said to grow around another in
the interior, may it not have been the *Pinus Canariensis*?
This was for building fire wood, and by the fishermen who
attract the fish to their lines by large flames at night.
The fishing boats of which there are very many presented a
very beautiful sight from the ships from the size & brightness
of the flames of this pine. We had hardly pumped out the
gig when another signal gun was fired for us, we had time
on board immediately the "Indus" stood away for the Southward
Nov. 13th This morning we were close to the land of St Jago
one of the Cape de Verde Islands. The northern part consists of
low rounded hills based upon flat lagoons, their sides are cut
by the same parallel valleys that were so common at Senegal
but appeared nearly bare of vegetation & of a reddish brown color.
As we ran along the coast towards the Southward the hills
appeared quite a different ^{aspect} being very sharply pointed & cut
into fantastic shapes, none of them under high (2500ft?)
& many of them from their much shaped summits quite inac-
cessible. It was grossly barren & rather looking. Many
of the valleys bore the appearance of hollow caverns cut in the
table land at the base of the hills. The Island of Fogo has far
the most peculiar, it is short & very high crowned by a volcanic
cone with a split crater at the top. When within about 4 miles
from the shore, numerous boats came on board among others



a Cetonia of African form, Polyommatus 4. the Primitia Lady 61
which I killed from being an old friend's several other species 31

Porto Praya made Nov. 14th today at 10 the Duke
cast anchor close to this insignificant little town. On each
side of the Bay, granite cliffs, flat topped cliffs, about 100 ft
high, stretched along the coast, they are of black basalt rocks,
sometimes columnar. About half way up, intersected by
the broad white horizontal band, which Mr Darwin describes
is the ancient sea beach of shale sand, resting upon one
layer of lava, & covered by another; it presents a most
singular appearance. The town itself stands in the
middle of the bay upon the flat top of a long distant
cliff, it is of the most miserable appearance, the country
for many miles consists of unproductive arid flats covered by
yellow withered grass, & here & there rises a short conical
hill of 2-800 ft alt., sometimes covered to their summits with
withered herbage, ^{at} these composed collectively of red volcanic
soil. Close to the town there are a few Cocoa-plantations.
To the right hand side of the bay there is a small island
evidently detached from the mainland & separated from it
by a shallow channel, it is called Sancti Island. The central
part of the bay consists of a very mountainous region, full of gentle
peaks whose summits are often split like the crater of a volcano,
which is never the case in the low hills near the town, that
I have observed. The highest of them, the peak of St Antonio,
presents a very fine appearance from the Bay, its height is
said to be 5000 ft. As we arrived a Slaving schooner was lying
in the Bay, I understood that a more cautious one had
made sail on discovering us having in sight. The present

We have no commission to catch slaves or to do mischief further
than preventing personal injuries.



The oranges here are the finest in the world especially one kind
called Navy oranges which often average 4 lb a piece the
lemons are also of enormous size & equally good. All the fine
fruits served will be with no care.

one remained some days, & when taking her departure, ³² her drunken shipper saluted us & mocking. told us, he was going bigger hunting to the coast.

This afternoon I landed, along with the Surgeon, Penn, & Mr. Belmont, we proceeded first to the Port. Consul, a Mr. Barton who was just arriving from the coast of Java, & looked most wretchedly, a mere skeleton I am assured of what he was. I was much struck by it, as he was the first case I had seen of a disease, of which every one has heard so much. The Thermometer outside a Veranda, in the shade & free from radiation stood at 84.2 Fahr. & the Dew point 69. Showing 15.2 degrees of difference between the temperature of the air & that at which Dew would be formed. His behavior ~~like that~~ ^{like those} of all the few European inhabitants, was like that of a Portuguese with no apparent attention to comfort.

The Town is inhabited by Blacks, free & slaves, who very easily pursue various trades. The Negro huts are all low cottages, in which the natives live in great poverty. They are however a fine active race when they like, the men go clothed in cast off European clothes, & the women in loose wraps dyed blue or red, of native or manufacture, & adorned with anklets, armlets, necklaces of beads & bangles, they were most extremely polite even both to me another & to the Europeans and visitors. The Town boasts of a sweetened church, which requires to be pointed out to be discovered, barracks with a corps of soldiers, 3 bellied groves for as many Portuguese inhabitants, & a square surrounded by cottages, in which were sold oranges & tropical fruits. Horserace who kept him on fire & rather promise of the worst description.

We landed among some steep rocks to the right of the Town, & walking along the beach, ascending a most rugged road up to the Town, which was poorly built & filthy, dirty & alarming

The ground is very bare full of conical holes which I took to be
the nests of the Ant. Lion as however I could never find the animal by
digging I afterwards thought they might belong to a very common large black
beetle & compared them with yellow Centaurea.

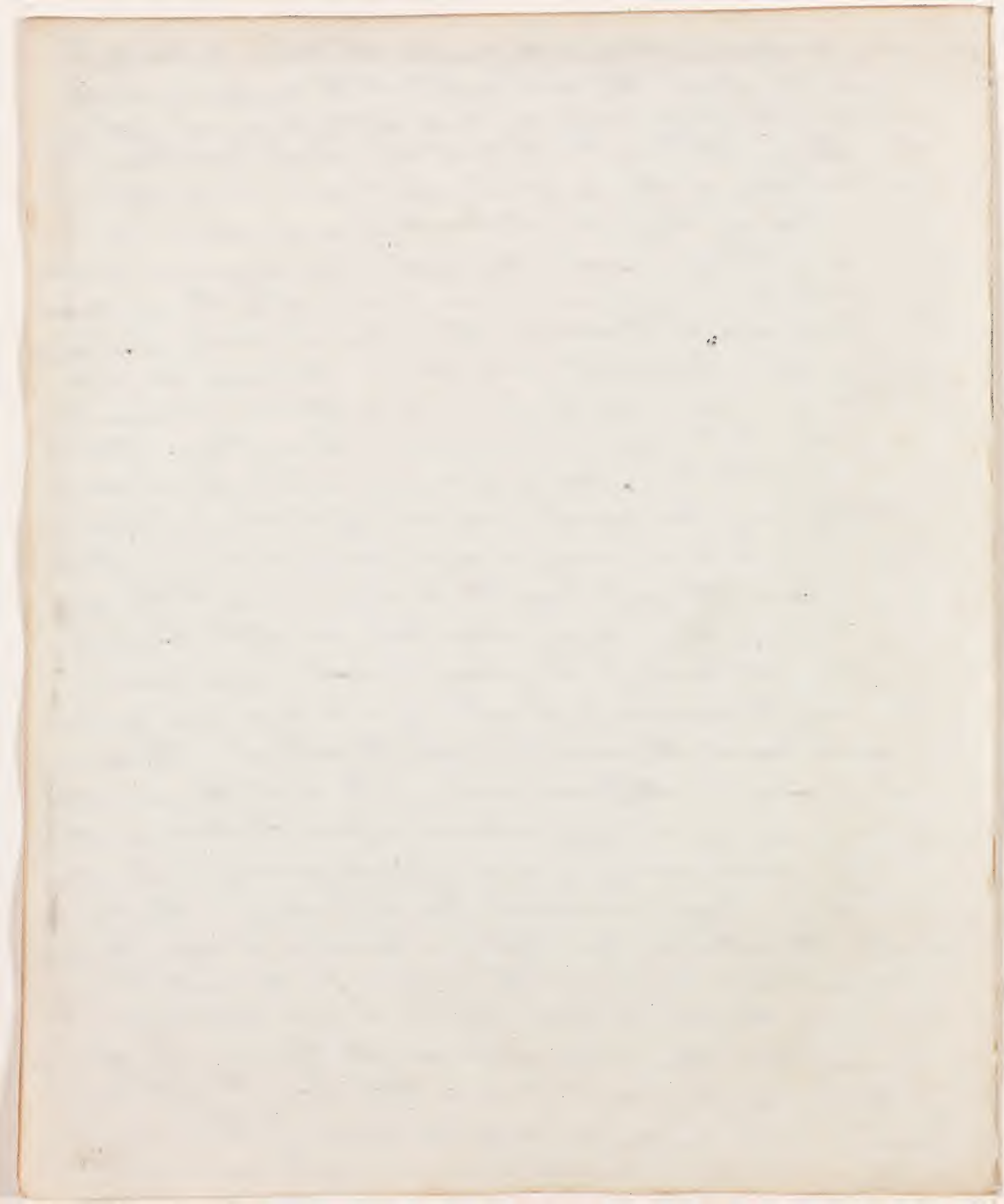
with pigs & muggers. after passing our address in the
 33
 road we descended at the other end of the town, by a similar
 road to the one which we had ascended, & came ~~into the town~~
 to a beautiful grove of lowa nuts, Bananas, Palmettos &c.
 they grew beside a small stream of dirty water, & flanked
 the precipice in which the town is built, being the first I
 had seen they delighted me extremely. Men who have not
 been in a tropical climate can have no idea of the graceful
 beauty of this tree, to me it quite compensated for the otherwise
 total barrenness of the scene. The ground was scorched & dry,
 & here the plants that grew on it, continued to exist & were
 puzzled to conceive, nothing save the palms, above a foot
 or two high seemed to ~~grow~~ ^{grow}, but two upon lowa streams
 covered with *Polygonum* seed, this was covered with yellow grass
 which sprang up after the rains & withering from rustiness
 hay for the numerous flocks of goats & cattle ~~that feed~~ ^{that feed} upon
 this alone, without our climbing. One green plant a large
 old flowered *Convolvulus* grew every where. Other plants were
 chiefly small sedas & Leguminous plants.

Our intention was to visit the famous Baobab tree that
 grows within a couple of miles of the town, but, missing our
 way we proceeded to the westward of the island, by a small
 footpath, roads there are none. Innumerable crickets & locusts
 were skipping & flying about in every direction some of a very
 large size, there were very few other insects of any description.

Our path wound along the bases of low hills composed of rock
 where ~~hollows~~ ^{hollows} ~~seemed~~ ^{seemed} washed by the lowa streams ~~which~~ ^{that}
 form the ~~ground~~ ^{ground} of the valleys. At other times we came upon
 plains stretching a some distance for an immense length.
 The bottoms of some of the valleys are full of Palma Christi
 bushes, the seeds of which the natives burn, when they yield a
 beautiful oil for their lamps.

I have not the means to do this leaves.

67.
Stunted Aracacias frequently grow on the plains & valleys
where tops, where they were exposed to the continued steady
current of the trade winds, are bent at right angles with
their stems; they may rarely bear any foliage, yet their
branches when broken are found alive & green. A beautiful 34
large species of Kingfisher the *Dracole fuscus*, sits on its
branches watching insects. This with a true sparrow & great
numbers of flocks of a small species of finch form the only small
birds I have seen on the island. The Centaury bushes are frequented
by a very large & beautiful kind of spider. It builds its nest
by throwing an immensely long & strong thread, (I measured
one about 12 ft long) from one branch to another, or that
of an opposite tree, now, except it is aided by the electricity
of the dry air of this climate, I am at a loss to conceive, from
this it suspends a beautiful net, nearly circular in form,
except where the suspending thread forms a chord to the arc.
At the centre of this, a huge yellow spider has stood vividly
marked with bands of red yellow & black, & near him I
have seen the remains of locusts $\frac{3}{4}$ inch long. One indeed
I found a locust 2 $\frac{1}{2}$ inches long completely entangled. The spider
is gregarious & in different corners of the net there are often
as many as 40-50 hungry saturnal or frow relations, with
long legs, black bodies, & more ignoble quarry beside them.
One large spider invariably remains chief in the centre,
whether the others are his progeny, or usurpers, to whom he gives
accommodation as long as they remain of a size not to be
dangerous, I cannot tell, but this I have constantly
observed that they never approach the big one. The regulating
of the net induces me to believe that it is the work of one
animal. In cool quiet valleys the number of these insects is
great & often being, one establishment sometimes covering



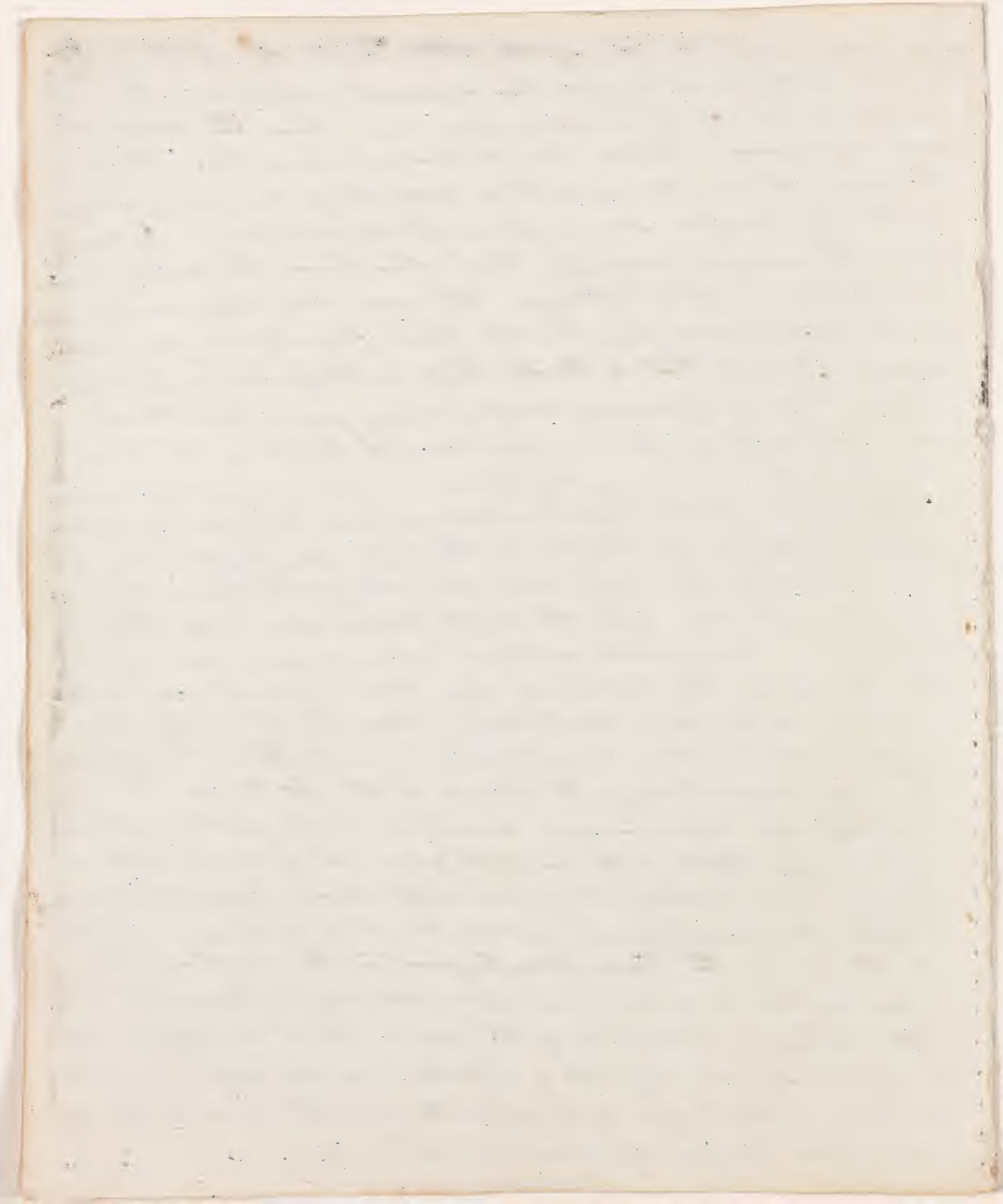
a span of 3 or 4 square yards. This very agile & nimble
climber & catcher, at first, I confess I was rather afraid of
him, distant visions of Tarantulas & my having no fiddle,
floating before me, a snigger being my perplexity came to
the chase very ingeniously crept behind the bushes, in that the
Spider could not see him, there, operating upon his hands he
saw, now & then started upon me & kept me bottling fast
enough. After proceeding for some way over land currents,
we discovered a small rather flat bottomed valley, there was
a little water in it but quite hot. its temp. was 86, in it
there were Colymbetes & Gerrhos?, on the black rocks near it
a most agile Cicindela. The again came upon an open plain
on which were flocks of goats & many birds. I here saw a
Callipepla, Psaltriparus but soon came to a bigger hut, the
family treated us very civilly, giving us some of the most
magnificent oranges I ever eat of an immense size & very
sweet. They were all crowded into one hut, were cleanly
dressed & all had good humoured countenances, indeed I never
saw a snigger that had not, they are invincibly good creatures:
laughing & smiling at every thing. Having now proceeded
5 miles without encountering the Babab town, the object of our
search, we struck off to the N. & with our helmets I commenced
the ascending a hill the greenest top of which attracted my
attention. we ascended ^{its} stony sides & after ^{some} ~~much~~ fatigue,
gained the summit. The sun was intensely hot, & my feet
were full of the carapace of a species of Picidene, which infected the
plains, its barbed teeth sticking through my stockings & strovers
into the flesh. in such numbers, that my legs & feet looked like
a huge pin was been struck full of black pins. The hill was
about 200 ft high its sides were stony, with a few Acacia trees,

Captain Pop. In case some afterward then some caught was
U.S. 4. The natives got them by sitting under the bushes they
frequent till night when they were whole charges of shot
into them from within 2 yards or two

The Palmetto is used for straw hats & brushes &c.

1. Sugar cane & orange.

on which were several of the little Finch. The males
marked with black precluding any separate bushes from the 36
females, which are of an ashen grey color. Near the summit
were numerous Palma Christi bushes, & one or two others.
The story told was covered with a vine-oat (of my younger days),
& other strong grapes, several species of Convolvulus &c. In most
places the summit resembled that of Ben Nevis, the rocks however
were volcanic & not porphyry. They were sometimes covered with
an Asclepiad-like plant with terete flagelliform glaucous
leafless stems, & that so thickly that nothing else could be
seen. But one glaucous mass of many yards long & broad
which attracted me from a considerable distance, the plant
bore hard & then small umbelled flowers. There we put up several
Quail, & some flocks of Gallinule or Guinea Fowl, there were as many
as you see the cover, they fly neither fast nor far, but are so
near that they are hardly ever approached within gun shot.
We afterwards came upon the brink of a precipice, I saw them
sitting at a considerable distance below us upon some Palma
Christi bushes they cackled like barn Swallow & appeared about the
1/2 times as big as a Black-cowbird. From the top of this hill
a very beautiful scene was presented to us, to the N. E. were
the high mountains of the Interior to the N. the Sea &
immediately below us was a beautiful valley filled with a
Tropical vegetation of the liveliest green, it appeared like an
oasis in the desert, full of Cocoa nuts, Dates, Palmetto, Bananas,
Pappas Oranges & Limes. Cesp. ave. &c. At a distance a little
to the back of the town, I distinguished the Baobab tree
& for we had wandered far out of our way in search of it.
After taking a specimen of the rock on which we stood which
contained small crystals of Epidote? we descended & walked
back to Porto Praya, by a different but not more interesting
route than the one by which we had come.



After refreshing ourselves at the Consulate, we procured a 73.
boat & went on board. Mr McCormick arrived about half an 37
hour afterwards. In our return we found that the Consul had
very kindly left word for us to prepare ourselves for the coast
guard, which was certain to lay hold of all suspicious ones who should
expose themselves as we had done.

Friday Nov. 15th The day, along with the Lieut I set
out to examine the rocks along the shore, or rather I to
Professor & he to geologist. We ascended to the bed & found
it about 10-20 feet thick, running quite parallel to the
horizon, full of fossil shells, it consisted in the center of soft
yellowish crumbly lime, resting on a bed of lava which had
once been the bottom of the sea & on which this artificial
shore or beach had been formed, solely by the life & death of
shells during many ages. Over this shell sandstone bent
another stream of lava had run, converting the shell sand
into carbonate of lime, interstratified, or collected into nodules,
numerous fossil shells were interspersed through it, some
indeed along with small masses of limestone, were taken up
into the substance of the limestream, when the shell
was hardened to a great degree, & the lime appeared beautifully
like med. zeolite in miniature. The rocks above the bed where
there had been a fissure, were coated with hard crystallized
Carbonate of Lime. - Mr Darwin describes this metamorphism
beautifully & adds, that all the fossil shells are identical with
those now found in the neighboring ocean. Of maritime
plants I found only one species, that was strictly so. The
Asclepiadaceous plant grew here in profusion, & I have remarked
that it seems confined to the sea side & mountain tops like
several British plants. Saw several Nestled Hawks.
We were here joined by another party consisting of Mr
McCormick, J. Robertson & Mr. Polley of the "Tiger" the former

The Inhabitants of these Cottages are very poor, the
men work a little & the women spin from the distaff,
the partitions of the cottages are made of palm-leaf
matting. The outside of grounds

The Bisan Cal according to the Posing of it is said to be

photographing, the latter shooting. Under Mr Mc Cormick's guidance we arranged to go & visit a curious ravine, ^{leading} ~~leading~~ out into the sea a few miles off. We accordingly ascended from the cliff & came upon an immense Prairie, covered with stones that 38 were hidden by the withered grass. We commenced tramping over this to the eastern end of the Island. The sun was scorching & the walking most laborious, my boots that I had put on to guard my legs from the Pidons cuspids were soon cut through & the black stones were so hot that my hand could hardly bear them. The Thermometer in the shade rose to 85. F. & the point of the supination of the 18 degrees below it. We crossed some shallow rocky valleys, & continued our walk, till we arrived at some bigger collages, where we found a party of the "Terra" Quail shooting with a dog, the only one in the Island that calls itself shooting, it is a regular event horse or carriage dog but points very well. After being hospitably entertained as one of the party, we proceeded for some miles my companions every now & then shooting Quail which sat so close that they were only put up by treading among & them. We at last came suddenly to the gully, it was a deep gorge about half a mile long & 100 yards broad, with fine riparian sides perhaps 200 ft deep, when it opens into the sea the broad limestone band was very distinct. The place was full of coral & Reptiles & Amphibians. A wild monkey, the first I had seen was running with remarkable agility along the opposite cliff, he had a tail half as long as his body which he on an anvil with great agility. Birds eat + ^{are} ~~are~~ sometimes seen here. We descended to the bottom by a ~~very steep road~~ or rather we ~~went~~ ^{went} ~~down~~ ^{climbed} down. There were 8 or 10 species of plants in it, chiefly Lil as but none peculiar, creeping Convolvulus, Cacti and bushes & a small Lianaria were very common. The spiders were a perfect nuisance their webs being always in the way & adhering to our faces & clothes.

Circumference 38 feet.

It was now growing late & we commenced our return,
striking off in a direction that brought us to the back of the
Point to the Valley which contains the Bachab tree. 47
39

The tree itself is not striking, but for the size of its trunk, its
height is about 50 ft. with branches of immense size but
which do not spread far. at a distance it somewhat
reminisced me of an English oak. The trunk is very short, much
flattened or rather wedge shaped, & divides about 3 ft. above the
ground. Bark smooth for a tree of the size & soft. Diameter
of trunk 4 1/2 feet above the ground when it is greatest, about
15 feet in one direction, in another 12.  It appeared to me
a fast growing tree, & Capt. Ross who afterwards visited it thinks
that the age assigned to it is probably much exaggerated. Of this
however we can judge, except one, who, like A. Hansen, has
cut them out down. There are no other trees of the kind near
it. There are however others in the Island, but none of any size.
The fruit was unripe & I obtained only one tree which, opened by
the time I got on board, it measured, inches across, was of a
white color, faintly tinged with pink. I smelted a small that
we compared to that of currant bushes, but was more ^{sweetly} ~~acidly~~
~~nauseous~~

On our return to Porto Praya, we were surprised at finding a
shop or Venda where English wines & malt liquors were sold in
profusion. They were taken from the wreck of the Rover a few months
before. That vessel was wrecked upon Lucail Island Van Stones
sold in the Island at a most disadvantageous rate. We bought
some Porto at 4/ per bottle, it was exceedingly good.

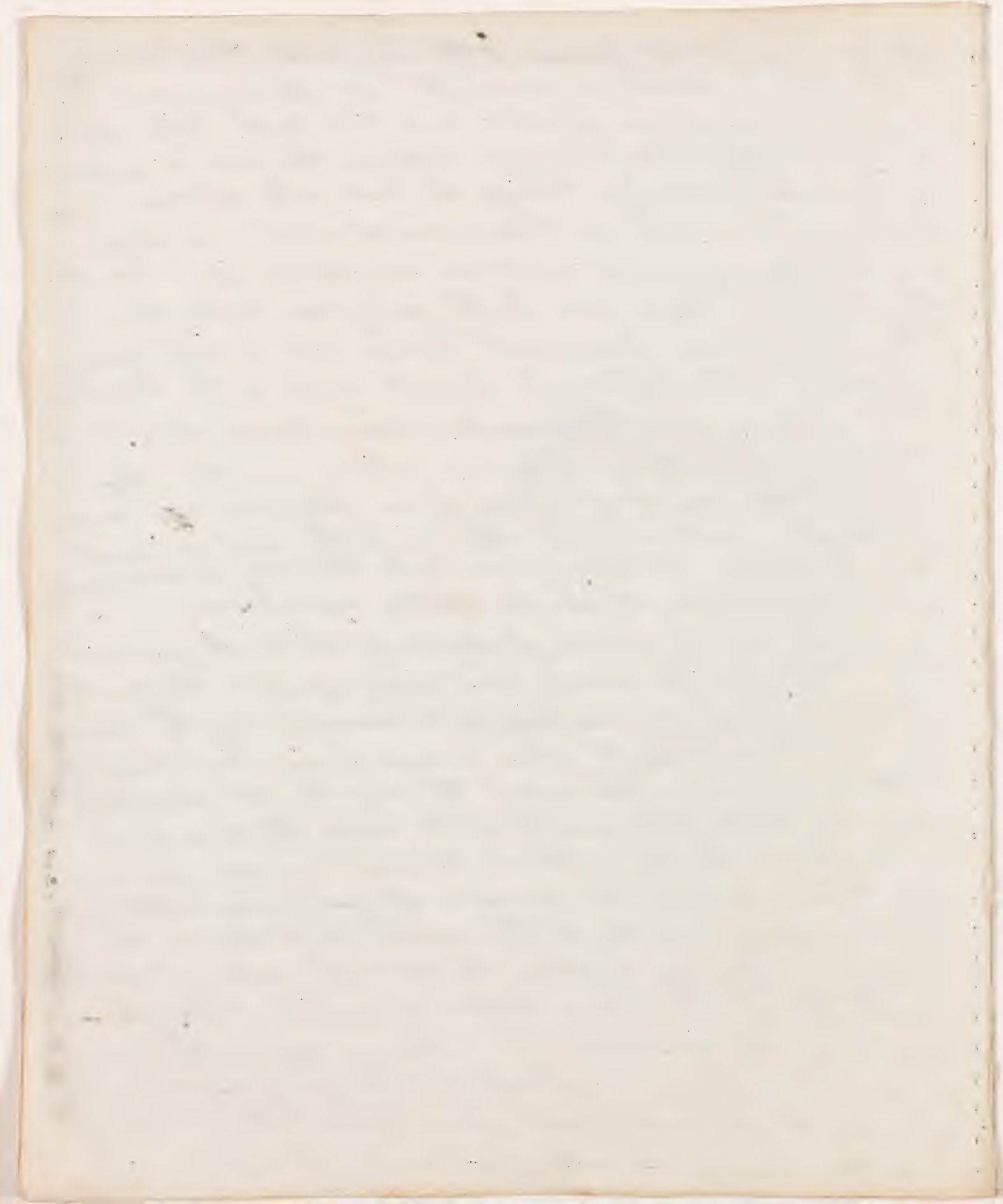
Saturday Nov. 15th day I landed with Mr MacLennan & Mr
Pabst the purpose to visit the Valley of St Dominge, one of the
most beautiful spots in the Island. The current presented us
at night, appearing as that a wall of 12 miles there & 12 back
would scarcely be followed by pack, we therefore hired two ponies



the only two we could procure, & the very worst I ever saw, 79.
The JackRaps for which we chose cuts. The bar low much & 40
I was relinquished our beasts & sent them back before leaving
the town, & the JackRaps having performed the feat of unsealing
Mr. Mellett & running through the town with our poor horses
hanging to his neck, we determined to walk. We passed
over similar ground to what we had previously, & about
5 miles out of town came to the foot of some hills, where
there was a plain, covered with beech trees which were
somewhat bent half way up at right angles to the trunk,
by the trade wind; they presented a remarkable appearance
there were about 200 of them all like one another. The
largest I saw was about 2 ft in diam. They were all much
of a height about 10-15 ft. & the horizontal part as much
more or longer. Mr Darwin mentions this very plain & most
accurately describes the direction of their branches as

One tree attracted my attention, particularly its trunk grew out
horizontally from the side of a steep valley, itself in the direction
of the trade wind, & I was puzzled to conceive why the branches
were twisted in a cork screw manner & even very stunted.
A little consideration soon solved the mystery, the strength &
rigor of the trunk had enabled it to resist the force of the
wind, thus in the case with all. As soon however as a branch
was thrown out from the summit it was immediately bent
the increase of weight on it, then enabled it to resume its
original direction by breaking the current, until it overtopped
the ^{depending twigs} when it was again bent. A repetition of these causes
soon made the cork screw.

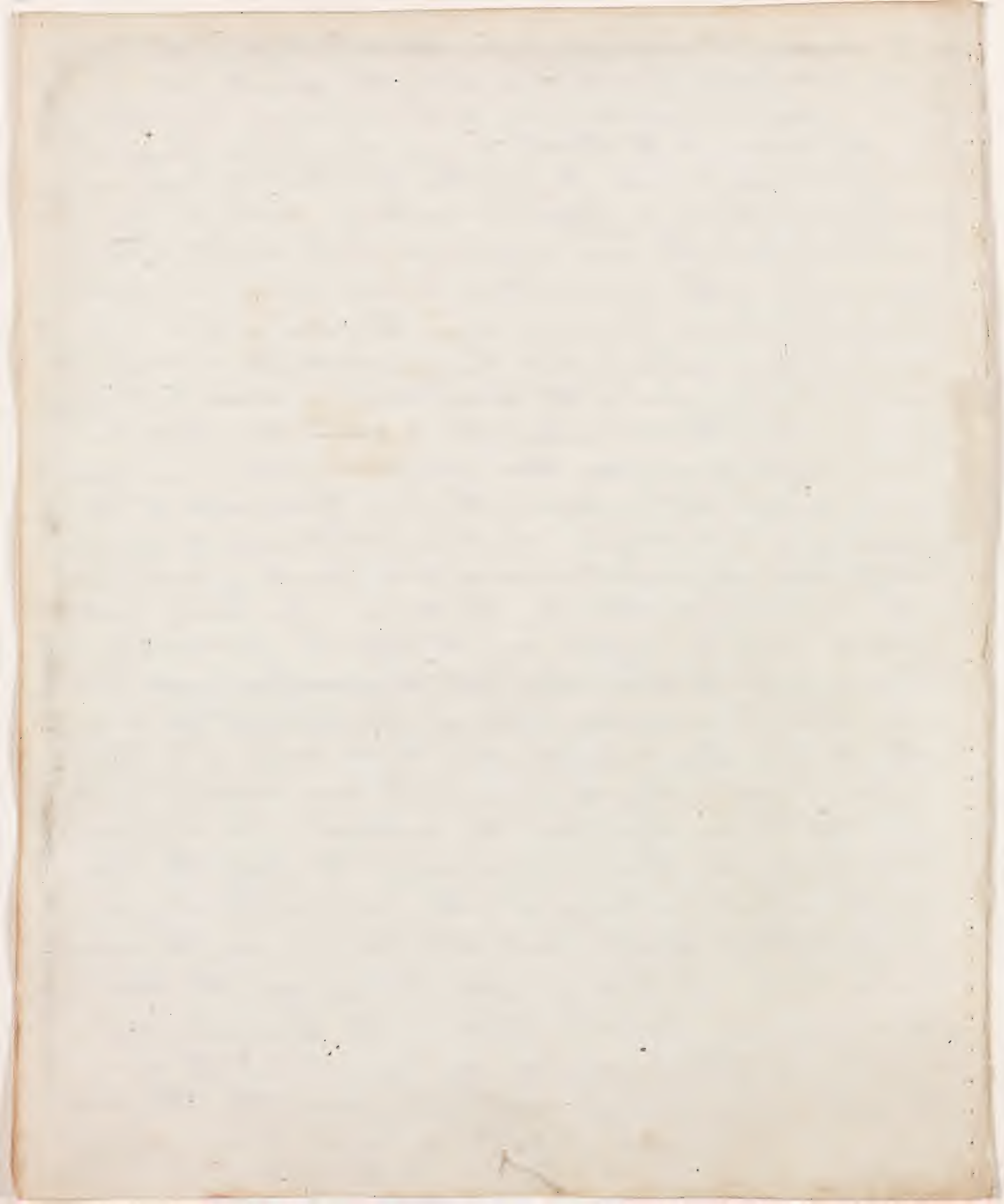
Pacing round the base
a mountain composed entirely of red volcanic stone, we came
upon another extensive plain which terminates in a small
valley that led into the valley of St. Domingo at right angles.



The descent into the Valley was very steep, the rocks of the
 broad valley became gradually ^{higher} ~~steeper~~ until we came to
 the Valley of St Domingo. The scenery at this end was quite
 Scotch or English, the valley was very broad, interspersed here &
 there with trees & parts of rugged hills sides were clothed
 with small trees, chiefly Palms Christ & were grassy for most
 of the way up, rising to about 2500 ft. we now turned off to
 proceed ~~up the valley~~ ^{up the valley} towards the town of St Domingo,
 the rocks & mountains grew steeper & closer upon one another
 we walked along a narrow path way among a thick foliage
 of big bushes & several other small trees. The vegetation
 was quite different from what I had seen before, though not
 rank or tropical. I had barely time to gather a few plants
 before evening came. The beautiful Kingfishers were chattering
 on the trees & numbers of one little bird sang so like a
 robin, that we all exclaimed at once we were in England.
 The evening was deliciously cool, & weary & jaded as we were,
 no charm of nature could have come more opportunely or
 revived our spirits better. None can appreciate such a scene
 & scene best without having walked 12 miles under a blazing
 sun, over rocks that almost scorched your feet as you stepped
 upon them. Our path way was the dry bed of a stream,
 full of boulders of trap rock & water worn pebbles. The Valley
 was very narrow with precipitous mountains on each side,
 we were evidently in the mountainous part of the island,
 it will further open the town of St Domingo & the S.E.
 extremity of the Valley. The mountains then were broken
 into the most extraordinary peaks & summits, which
 reminded me of the Organs Mt of Pico de Janeiro, only these were
 much sharper. At the base of one of them or rather hanging on
 its side was a few ^{the} ~~few~~ huts imbedded in foliage, that

The sun is made here from the light, rain & is very sweet but
very & not good.

the young Domingos, we crossed a stream & passing through
 many plantations & forest & ascended the opposite hill to reach
 it. It was now dark & going to the chief house near the
 plain, we enquired for the Wenda, we were answered in French &
 asked if we could converse. We were then told that we were welcome
 to any thing the owner proposed, & invited us further no pay must
 was to be offered. This was too good not to be accepted, & we
 entered into rather a good cottage, around which were some
 builders & carpenters erecting houses. The owner a Por-
 tuguese native of Porto Praya, but educated in France, he
 had lived many years in the Island, but had returned to the Valley
 to escape from the fever, which had so attacked him, that his
 friends could not recognize him. After having held several offices
 he now enjoyed that of Major in the Army, Quartermaster to the
 Regiment in Porto Praya. He lived with his wife & several
 little slaves, his property surrounds his house & is cultivated
 with tropical fruits & plants. For dinner a fine Turkey with
 white bread, rum & water were set before us. For dessert we had
 Bananas & a fruit, over to me, the Mamona (pronounced Mamaw)
 like of the size & consistency of turnip, after peeling off the outer
 skin that of a true leek, you come to an inside like that of
 a turnip with a delicate flavor & of the same consistency, in
 two to four large roots are imbedded. This Brazilian
 fruit & very rare here, I have some of the leaf of the tree in
 a thin shell producing it. The Valley he told us is very
 fertile & full of Monkeys, wild cats & Galinas. Hares were
 so abundant. The following information regarding the Island as
 I had it from him, I shall insert here. The Island all around
 consists of broad flats such as we had crossed to reach the valley,
 then hills or prairies have round topped hills on them. The coast
 part only is very mountainous with deep valleys & ravines, in the
 most beautiful of which we then were. To the Northward the country is



more cultivated & fertile in the valleys, though there is no sea port
on the town but Porto Praya, numerous Portuguese families have
large estates & well cultivated, scattered through the Island, but they are
all in the valleys, that is the houses which are very good are
only taken down accidentally or by being taken down where I took from them.

Of towns the only ones worth mentioning are Porto Praya the present
capital, St Domingue once a thriving place, now all the Portuguese
houses are demolished nothing remains but ruins. & The Cidade
(city) is old capital which some of our party visited; it is well
described by Darwin as the Perfide grounds, it contains a Church &
rapidly falling into decay. The climate is very hot & dry,
healthy from March to August when the rains set in, they
fall very seldom but then in immense quantities, when life
is soon greatly called forth. It rains more in the mountainous
regions of the interior than in the plains below, but St Domingue
is rained three times during last rainy season (August last)
after the rains the fevers set in & last month February they are
said by all to be deadly to Europeans, though none of our ships were
suffered, it is impossible to expose oneself more than we did.

The plains are most unhealthy; the mountains healthy, all
Porto Praya worst of all, that I can well believe from a small
march that has entered the town. But why the other parts of
the plains can be so unhealthy I am at a loss to conceive, unless
as Humboldt conjectures, the gaseous exhalations of dry rocks
can produce a miasma. The fevers are described to me as arising
from exposure to the hot sun, & they commence with Deamhead.
Salt & Lemonade are the only medicines used in the country,
with the latter the Consul cured himself. The highest mountain
in the Island is the Peak of St Antonio it is visible from the
town & anchorage rising in the form of a acute peak. A great
height said to be 5000 ft. Its top was almost always covered with clouds.

St Domingue contains about 100 inhabitants
During dinner our host arranged three little slaves round the

This we afterwards found is the negro's spur.

They were very clean & neatly dressed, quite young & jet black. 87.
into dinner. They each received an embrace from their mistress 44
I came to us for the same. Our host said he treated them as his
children & would not part with one for any thing. On taking our
departure we gave our kind host all our shot & 1000 powder
flask as the only recompense he would take. Mr Hallett,
being knocked up, procured a horse to return, with, Mr McCombs
& I walked. We returned by a beautiful moon light. Determining
to visit the valley again if possible.

Monday Nov 17th. Mr Wilmet & I, after having again to accompany
me on a second visit to the valley of St Dominick, we left the chief
party. Knowing the uninteresting nature of the interesting
country we determined to make another journey with the horses.

We accordingly procured three miserable looking animals
about 7 hands high, as rough as bears, unshod & having most
long and busy eyes. The gear was most imperfectly fitted to the
animals, one having a pad & bridle, another, a saddle & no
bit. The third & horse had neither & peaked saddle. Their upper
limbs were so arranged, that the bridle backed one had the head
which was worn through, the stamens the full bridle, & the
saddle or rather, the most run home one, the latter rather.

Sticks or blows would hardly make them move, they only
swished their tails at that & I thought it a remarkable
instance of animal instinct that they equally evaded their
tails, whether the flank of the animal or the point of the side curved
back, which I had no time to make note of.

The blow, I often wished I had no time to make note of.
Our Wilmet was the first to find out how to make a Port.
Gray pony gallop, if it can ever, it is accomplished by exaggerating
the motion of pushing yourself on the saddle, & kicking your heels
into the animals flanks & personifying a horse jumping.
We arrived at the valley without having seen any thing new or strange.
The vegetation as we descended increased in richness & I remarked
several trees that had before escaped my notice, hardly any of

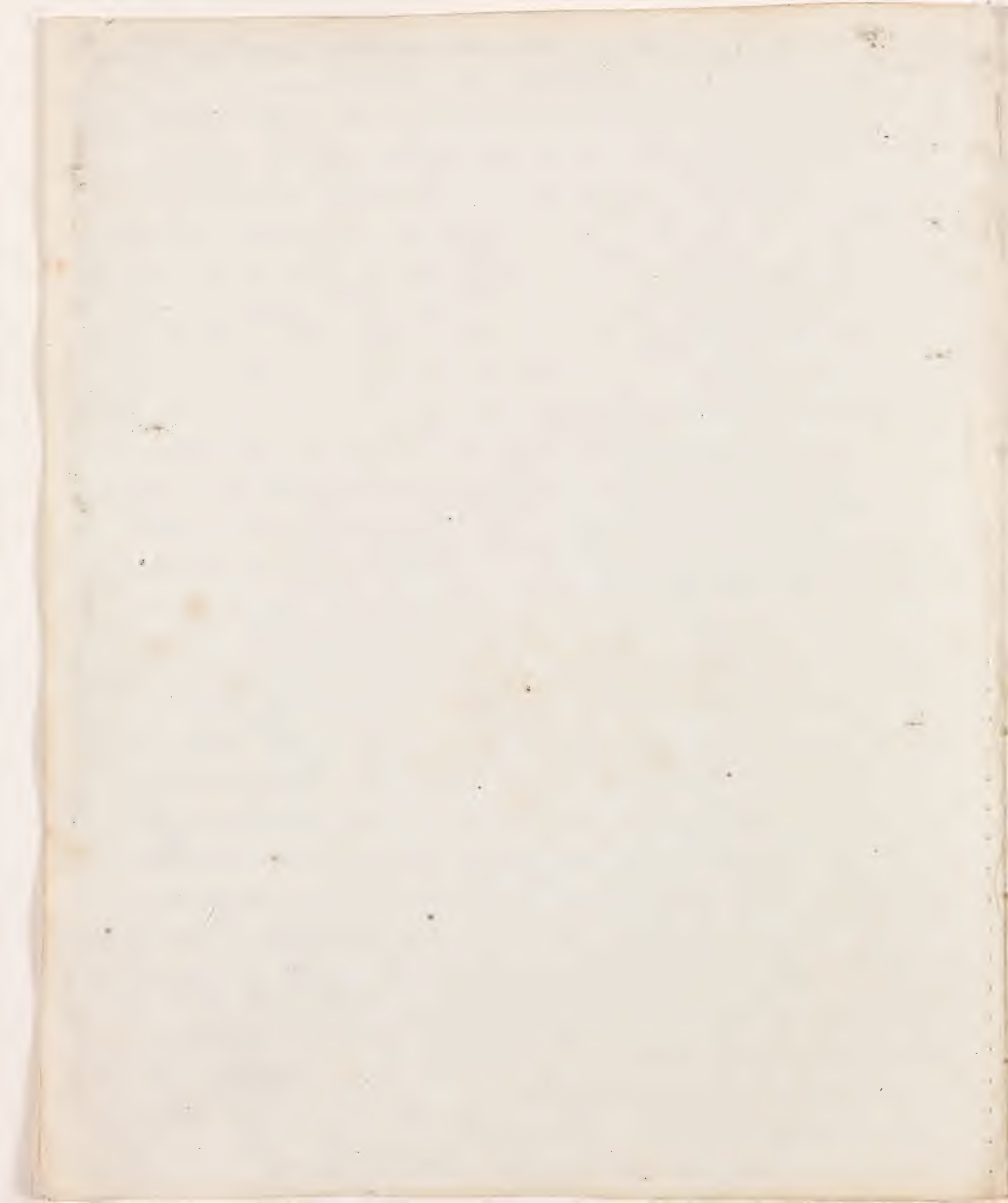
Here Lepoz dismounting & trusting to the tameness of
his pony shot him, he made off into the wood & defied
all attempts to catch him.

The Tamarind tree is *Strombos* I found one of the only
two things that I had seen on the Island it was a large species
of *Prosopis*? I had doubtless seen them in the Cairng season
from months ago. On being touched it fell into a cloud of
fine powder of a rich brown color. I could not procure it.

89.
them were in flower in fruit, they had generally compound leaves.
One species of the St. L. Annonaceae was not uncommon, though
I could find but two specimens in fruit. It grew about 2 ft high. 45
The underwood was formed of small tidias, Malvas, Solanums &
the species were not numerous but very pretty & quite different
from those of the prairie land, grapes were numerous & beautiful
of Cyperaceae only one species of Cyperus. One specimen of a species
of Equisetum? delighted me much, though after diligent search I
found but one shoot of it, only two or three flowers. A beautiful
morning flowering was in profusion, with several
Scorzonera & a few Compositae, all herbs. In passing our hands,
the Frenchman's house, I found a fine Ardisia ever plant, of
which one of my shipmates had previously brought me specimens
from Lisail Island, it grows to the height of 10 feet, is little
branched. Leaves very large ovate. Umbels of flowers large, petals
with purple streaks. The fruit is however the most remarkable
part only two out of the umbel come to maturity, the capsule
is surrounded by an immense inflated green integument, often
larger than the closed fruit. The stem is very much to be noticed
as I under it difficult to stay. None of the stems I saw
were above 6-8 inches in diam. but I saw lots a recent
large shoot or tree of it erected some little distance off.

We had arrived just at dinner time & were invited to
partake. There were many dishes new to me, commencing
with Cassava root soup which is very delicate & most delicious.
It looked like a sort of the whitest bread soaked in water, but
tasted something like Communion or rather ate like it.

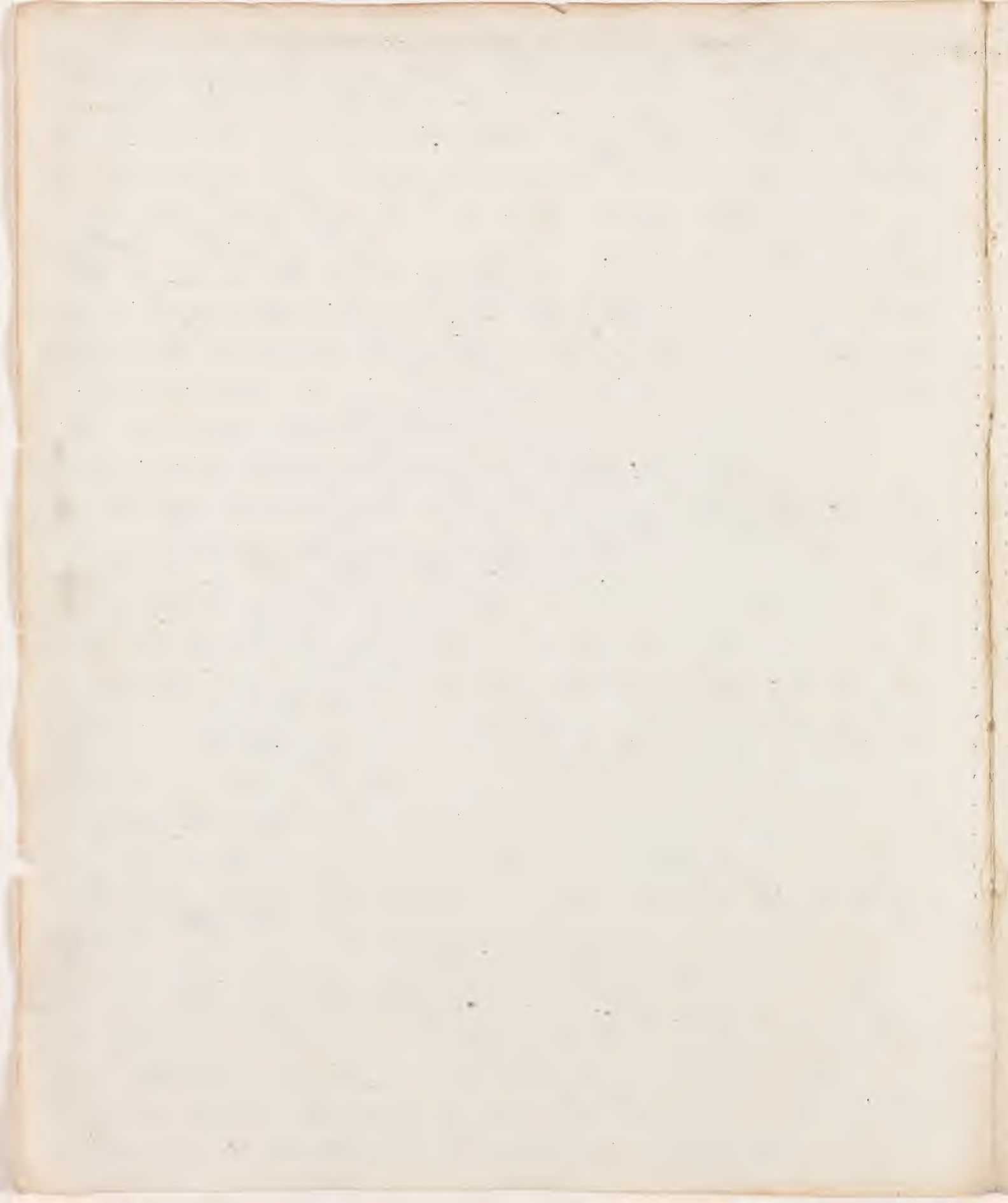
Prof. Bailey quite dry with Cassava roots, omelets & a variety
of excellent small dishes followed, we were helped in moderation
of each & it seemed to be the custom to eat of all. Having
made an excellent dinner, we started to ascend a peak.



immediately behind our friends house. its appearance was that of a steep cone with a pinnacle upon the top of it. Soon we saw plenty of Madia which is much here is usual & several fine Lawsonia trees. An ascent of the base was through a dense ^{field} growth of maize, about 8 feet or more high. Then our path & beating our way was rather arduous. About half way up I met with the plants I had found on the hills about Puerto Praga, a little higher at the base of the pinnacle the vegetation altered. Several Lichens grew on the rock, a Cladonia among others. A Scrophularia, pretty Lobelia? & a composite low shrub, like the Purshia. As I had to relinquish my boy & hammer for an arduous climb, I forsook ~~abandoning~~ ^{gave up} the attempt while Leproy & I proceeded stuffing my pockets with plants & every stick. The rock was basaltic & but for the holes in some of the cliffs would have been very uncomfortable. On a small ledge near the top there grew most lovely composite daisy with bright orange flowers & long involucres. There beautiful blue flowered Asperula with a corolla ~~from~~ ^{very} small long. The top was gained after much difficulty, the view of the valley was magnificent & reminded me of the scene in Raposa, high mountains with pinnated tops, seemed to ~~border~~ ^{be} on every side, while the base was a rich green. The summit is a very narrow ridge & what we had thought a pinnacle turned out to be a wall with as broken a top that our position was isolated from the rest or any easier mode of descent. A small Umbelliferous plant the first I had seen on the island grew here, it is a small bush with white umbels. Numerous Skunks, buzzards & vultures kept hovering round. They ~~waited~~ ^{circled} about dying as well as they passed. After enjoying the view & gathering specimens of a tree (Euphorbia?) that grew on the summit, of which there were only two plants & one spec. in flower we began to think of descending, Leproy took the way he came up

From the can I met with a Sapphorbia like Luttharia
but much higher on it a beautiful caterpillar of the
Sphinx Enphurata was feeding. On my taking it out
it ejected on my hand the contents of its stomach a greenish
acid fluid, doubtless a means of protection

whilst I thinking that no other way could well be worse
 than the old one, took another. I got easily hampered soon & then
 having to cling by my hands & feet & lower myself from ledge to
 ledge. A lot of little niggers below were shouting to me & I could
 just distinguish them waving their hands, but could not
 understand their signs. I was well rewarded by finding when
 about half way down a bush full with beautiful soft green
 foliage growing like our Asplenium out of the crevices of the
 rocks. It grew with lots of the Lamp anella & Antithesis, which
 so put me in mind of old Scottish forms of plants, that I only
 wanted a companion who had botanized over the place to
 share my joys with. A very minute moss but not of just now
 in the bush very sparingly. In crevices as I already was I could
 not help stuffing every pocket of my shooting coat with the various
 treasures I encountered, a hamper would have held 5 or 6
 species of Lichens besides. I reached the bottom of the cleft at last
 when the little niggers set up a tumultuous shout, & I perceived
 the cone which was here covered with Palma Christi plant through
 which & my road of spiders I had to break my way & meeting a
 pathos found Lepy waiting for me & the French man, the
 Jesuit said we would break our necks, obliging to remove us
 again. We remained half an hour & not minding in what
 time I emptied my pockets into my travelling Portfolio,
 which I may mention here is the only good way of preserving
 plants in the Indies & were it not for the weight might be
 looked upon as an indispensable addition to the Pantheon.
 The poor withered herbs that I gathered on my previous excursion
 were returned the more crumpled still from the fiery heat
 of the sun beating on the Pascarum & some specimens they have
 made, though invariably put into paper immediately on my
 return. He had the curiosity to enquire the price of labour
 from our host today, & was informed that masons & carpenters were



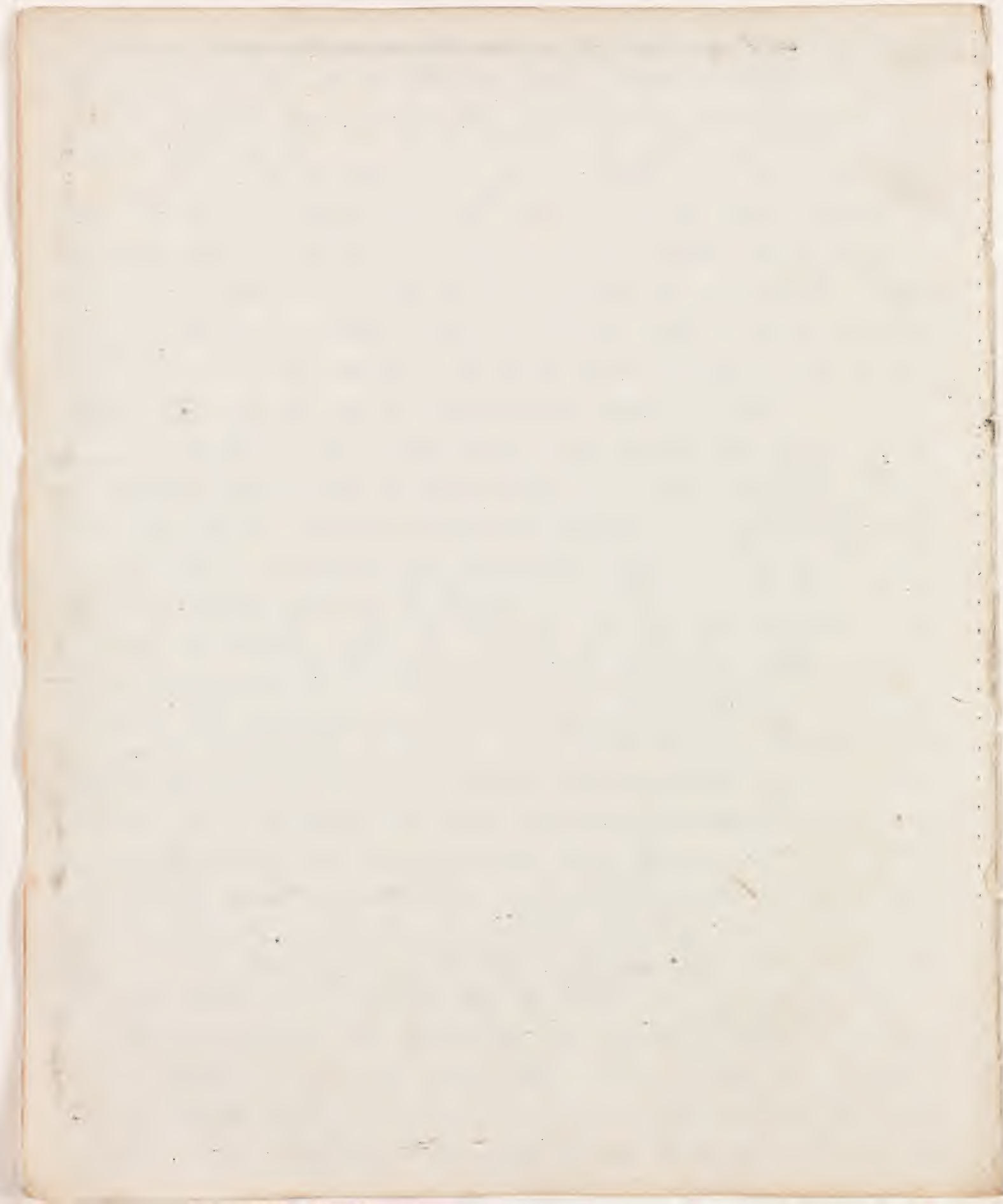
95
48

in the habit of receiving it of his day including food, which
of course cost enough, even water makes 2-3 shillings
stones are ~~in~~ abundant, the house was building of trap
rock with crystals of hornblende? in it. Limestone is not
so common as we were told, even high up the hills containing
sea shells, It would be most interesting to know whether this
is a part of the same bed so evident on the sea coast, uplifted
by the volcanoes of the centre of the island, which had poured out
the beds of lava that covered it down down, or whether it is
a more ancient bed upheaved by volcanoes of older date.

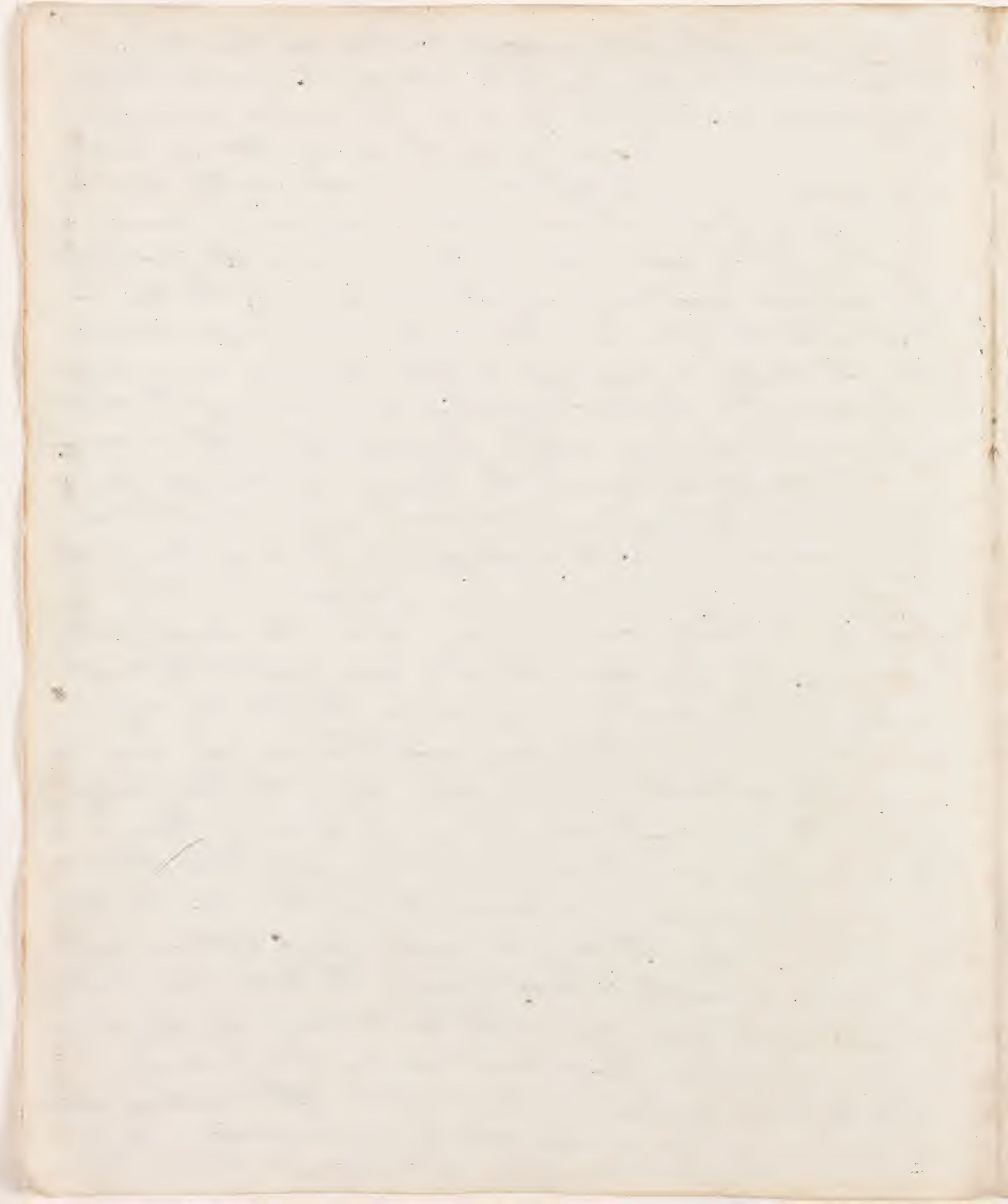
Having bid a final adieu to our friend of the Valley
we commenced our return by a different route. Much I observed
as the Portuguese have been stigmatized as most inhospitable, I
cannot forbear here calling particular attention to the friend can
be showing what a good education may do for one in less circumstances.
Had he not been in France a completely civilized country, he might
as most of his countrymen would do, have turned us from his
door & then not only parties to personal inconvenience, but
deprived us of the little information concerning the island
which he alone of the Europeans we saw was able to give.

From always looks back with pleasure to such spots as this
where his interested kindness has been shown him, when to this
is added a new country & the charms of a scenery half tropical
& half what is meant still to me Scottish, both as to scenery &
the general features of a vegetation. His happiness to whom the
works of nature have ~~been~~ ^{been} for the time, complete.

According to our new ^{guide} ~~direction~~ the directions of a little black
guide we ~~new~~ ^{path} lay up the valley for a mile further, (it
might have extended two or three more miles it widened & was
bounded by the above mentioned ~~by~~ ^{by} (of my pictures) &
then struck off to the right by a narrow path that ascended

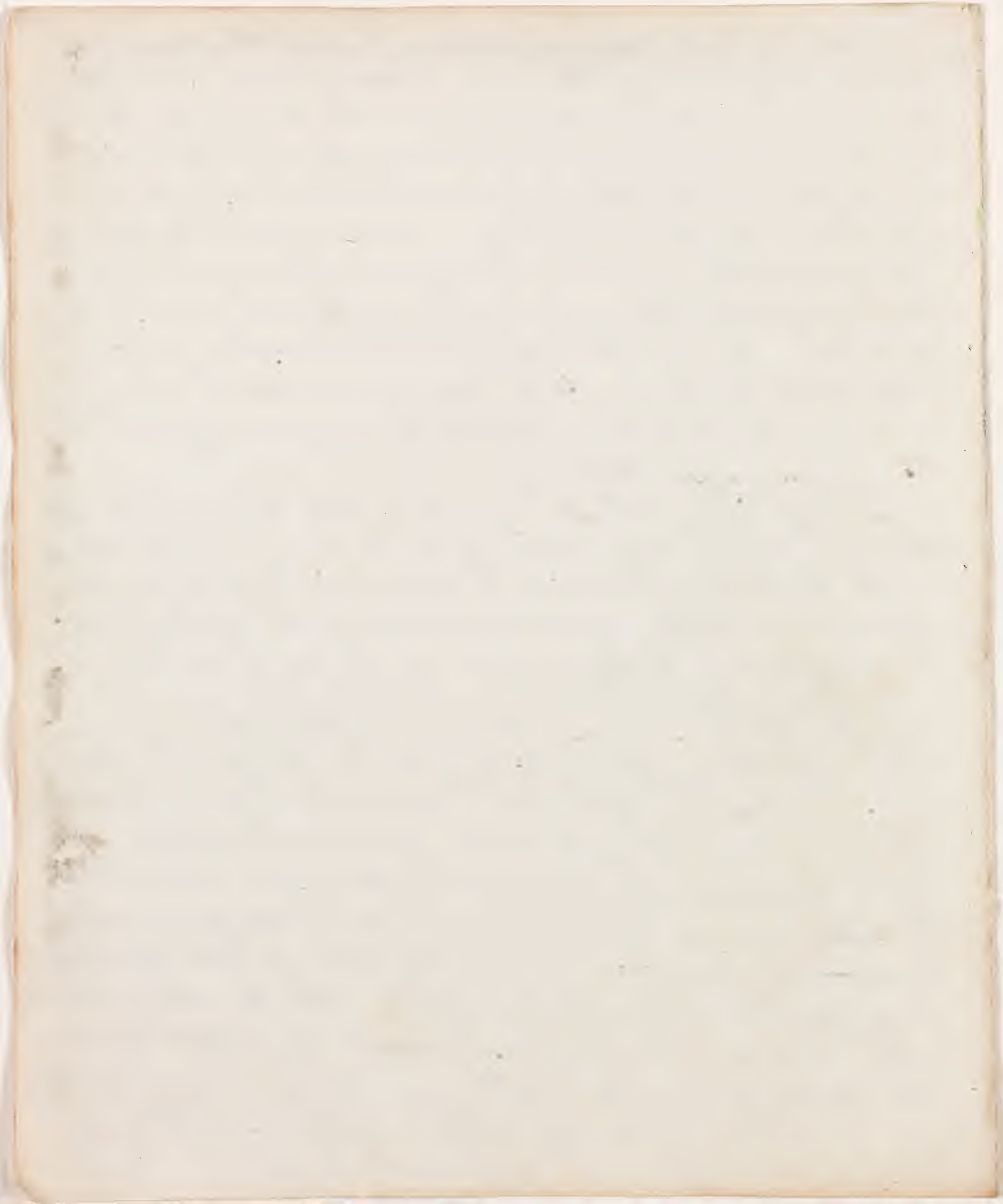


the side of the hill is a jagged elevation, we had been to the summit our horses our guide left us, descended through the hanging brushwood of the hill. The crickets chirruped in a monotonous manner as incessantly & shrilly that it quite stunned us & rendered it difficult to hear one another talk at a few feet distance. The voices of some were raised & even animal, putting me in mind of Emerson's ode to the grasshopper. The ascent was most uniformly steep & tedious by the time we had reached the summit which we gained to be about 2500 ft above the valley, it was past sunset. The moon came & being in the full shed the most beautiful light over one of the most interesting valleys I ever beheld, it gilded the peaks all around & I could hardly distinguish the houses of St Domingo from beneath us. The peak we had ascended about 500 ft below our present level. In the darkness, I picked one or two of the head plants, but we had no time to delay. We took a last look at the valley & commenced our return. The small path we had followed soon dwindled into a mere goat track, & with nothing but the moon & compass we fought our way through groves of wild trees, every now & then our way was completely obstructed by a cliff, deep valley, or the trees growing so close that we could not lead our horses under them. The latter indeed were sad facts, they were so worn tired their souls were & it caused us much trouble to urge them on. We took our turns of leading, the way. One went in front leading a beast the second led another & kept beating the first while the third brought up the rear urged on the second piece, heartily glad we then were that Leproy's beast had been away & we only wished that the rest had followed his example. After wandering about for an hour or more during which time we were miserably decaying ourselves into a state of ruin, we left Leproy with the horses & went



we started off into different directions to find the direct way. After ascending the brow of the hill I discovered a path, round the base of which we had crossed in going in the morning & the plain full of Acacia trees. We soon came upon a path which led into the desert road. This way we departed & returned by the head of the Valley with the Basket tree. On arriving at Porto Praya we explained to the Consul & enquired what arrangements Lefroy should be prepared to make or rather secured with regard to the lost Poney. We were surprised to hear that a dollar or two would make off for all. As the animal was sure to return as soon as it should have satisfied its ravenous appetite on the greener grass of St. Domingo.

Tuesday Nov. 10th Had we not expected to have sailed this afternoon, I should have certainly made arrangements to have visited the peak of St. Antonio, as much did I expect from the subalpine or rather temperate nature of the vegetation upon the heights above St. Domingo. As it was I had time to visit Small Island & to examine the bed of shells which traverses it. The plants on it are the same as those of the neighbouring coast, with the exception of the large leaved Asclepiadaceous plant that grows there in the interior. The Island is flat topped with precipitous sides all round. The summit consists of black trap rocks, either split into tubular masses or presenting the appearance of a liquid mass which had dried gradually, presenting forming circles round the stones & that spread its fragments. The whole coast was covered with the stranded wrecks of the Plover, & pieces of copper & lying about everywhere. The top was covered with arbutus grass, besides which about 20 species of plants grew on the Island. The rocks on the coast ^{appeared} ~~were~~ considerably above the water mark the shells of a beautiful



crab
which ate certain season leaves the sea's crawling up the cliffs, leaves its shell crawling out by a small an aperture, that it cannot be discovered but by knowing where to look for it, & so 51 completely does it unsell itself, that the cornea of the eye is left behind. The shell is so brittle that it can hardly be touched without breaking. The crab itself I saw close to the water, on the rocks, but he is much too cunning to be caught. There were very few native mud shells on the coast, nor did I see either the *Aplysia* or *Octopus* that Mr Darwin described.

The only landing place or beach on Quail Island is to the westward. This beach is formed of a Pakeian buff containing boulders & water worn pebbles of trap rock & quantities of sea shells, chiefly fragments which it has taken up in its substance. This present beach is covered by the calcareous sand which presents the appearance of an indurated shell sand with water worn pebbles &c. The lower part is most homogeneous the shells & particles of the upper portion being newer & not yet exposed to so much action of the old sea & tide. This bed all along the coast is covered with the last lava stream that has covered the island. - From to the southward this sand assumes the appearance of sandstone being more compact & much harder than it is in contrast with the superior trap lava stream. It contains some beautiful fossil shells & is so hard that it is now using on board for splitting the decks. At the N.E. this bed disappears & there is interspace between the trap buff of the beach & the recent lava current a very thick bed of disintegrated Pakeian corals, full of pebbles. This I at first supposed to be result of the disintegration of the recent living corals taking the place of the shell beach. but it contains no shells itself. it may therefore be either a formation of itself or a mass of matter carried forward by the under-



lava stream & which from being above the surface of the sea¹⁰²
or tide during the formation of the neighborhood ancient sea
beach, was deprived of sea shells & other fossil remains. 52

It appears from the most likely theory is that it was
upraised by the lowest bed of trap top, for I find it not only
hardened by it but also by the recent trap lava current above
it. In the N. the overlying lava current assumes the form of
Basaltic columns rising from a ^{stratified} base that overlies the disintegrated
trap at the junction the latter is ~~hardened~~ & contracted the
recent lava running into the fissure left. To the N.E. the
columns become larger & present more transverse fractures.
The stratified bed as here inclined at an angle of 25° toward
the N.W. A little further on the shore bed reappears interposed
between the disintegrated rock & the lava bed above, it is at
its first appearance not above a foot or two thick, it
soon deepens to a foot & for that distance, it is not only
extremely hard itself but the disintegrated trap is hardened through
it, its fissures being full of calcareous matter. The calcareous
bed soon thickens is at its centre soft & loose part soft but
above hardened by the overlying lava current, which here
presents immense columns 2 or 3 feet in diameter. The lastward
of the island I did not examine, but on passing it in a
boat. Saw the calcareous rock lying on the disintegrated
trap & covered by the trap columns above.

Wednesday Nov. This morning we weighed anchor
& even lost sight of the Cape de Verde. Isolated as they
are from any land & partaking as they appeared to me to do
of the vegetation of the I. of Europe. The African climate &
European species their examination through a telescope
afforded me the highest gratification as a Naturalist.

I remember

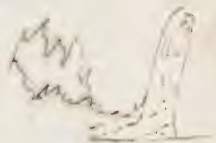
with the ^{best} of intentions ^{before} the company of the St Pauls ^{Islands}
when I did not land they present the appearance of a chain of little
islands arising from the ocean. A remarkable sea weed was brought on
from them these, the Booby (red) & a crab are the only living inhabitants
of the island but a few insects mentioned by Lord Darwin.

Dec.

This morning we arrived off the

53

small Island of Trinidad from a distance it presents the appearance of numerous rocky rugged hills & the aspect in nearing it is not improved. The rocks appear to descend perpendicularly into the sea & the two most remarkable points even the Sugar loaf hill & the mountain rock. The former rises from near the sea to a considerable height in form as its name portends, the mountain rock of an is the most remarkable phenomenon I saw hitherto, it rises from the sea in the form of a cylinder to a height of at least 700 ft. its sides except at the base where it is at a way up continuous with a series of hills, are more than perpendicular for the sea side hangs over with the top it more resembled one of our enormous pyramids built on the end of a perpendicular promontory than any thing else.



The length of the Island is about 6 miles the beach only at the sea end except the windward where some really comes down to the sea. This land of Guiana seemed totally bare of vegetation except a little green grass in the valleys & a naked trunked tree that grew towards the tops of the hills & formed them a small brown wood under some of the Cliffs. The highest point of the Island might be about 3000 ft. the summits of the hills were universally capped.

At 10 AM. when about 3 miles from the land the boat was hoisted out to go ashore, I accompanied me for the "Linn" which followed our Common oars. The birds flew about us in great numbers they were chiefly shearwaters Boobies & a very beautiful small tern of a spotted white color with black bill passing jet eyes & feet. They were very tame & flew quite close to us. We soon found a flat ponded brown sea weed & on nearing the shore saw several species of fish. We steered our course towards a small cove to the ^{off the Island} ~~the~~ ^{side} & it is a curious black cliff rock about 10 ft



Σ
-
Limestone

light scattered from the mountains & tenanted by the sea birds
It was in many places white from their droppings & emitted a faint
but heavy sweetish smell. any thing but analine. 34

we found it impossible to land here from the tremendous waves
& some during we were at Lelouard we small doubt whether
a landing could at all be effected. we continued coasting along
to the southward & went toward as far as the Sugar loaf hill. Then
the waves stopped to the sea & were covered with stumps of trees
but even then the beach was too rocky & the waves attempted to
land would have ensured the total destruction of the boats.
we now retraced our steps & rather way proceeded past the mine for
come to the N.E. point where the coast was still more inaccessible
than ever. again returning we at last disembarked in a little cove
to the S. of the mine for cove

The only advantage we enjoyed from our long haul was that we had
a full survey of the coast but the P.E. which from the hollows
that cause rolling around the N.E. & S.E. points, we deemed not
worth attempting. The island is evidently volcanic formed of
a greyish basalt with burnt then reddish masses & black dykes
which run out upon promontories in the sea. Some of the dykes were
very narrow a few feet & ran winding up the faces of the cliffs for
many hundred feet. There were several springs & runs of water
which were quite fresh from the rain which was descending in
torrents on the high tops & collecting us with a veritable torrent
noise. The coast seemed formed of shallow coves with steep
precipitous sides. the tops of the hills were very rugged & we
easily pictured to ourselves the figures of gigantic Giants, bishops
or the remnants. The bottoms of the coves were filled with
green grass & the slopes were there were any even in some cases



Long bay bounded by the
W & E shores of the bay at low water
the place of observation
The shoals were remarkable.

strewn over with the white dead trunks of small trees
the bottom where it could gain a footing was continued to the
tops of the hills where the trees grew & there only. The water along
the coast was very deep but dangerous for the lumber corks, the
bottom is covered with a white mudstone & a curious black fish
(the old wife) swims about quite freely.

He landed on a rocky promontory to the S. of the line & the S. of the
main pin cone, but with great difficulty. Within 50 yards
of the shore a grapple was dropped & the cable held by a
seaman the boat was then moved to the rock when another seaman
jumped ashore with a lead line by the opposite action of these two, the
boat was prevented on one hand from being beaten by the swell
or the rocks & on the other from being swept out to sea by the
reflux. We jumped ashore in the intervals & the instruments
followed us. To join the shore even from here was very hard even
impossible we had to crawl up & over some of the rocks along a narrow
ledge to the bay carrying the instruments in our turns both officers
& crew.

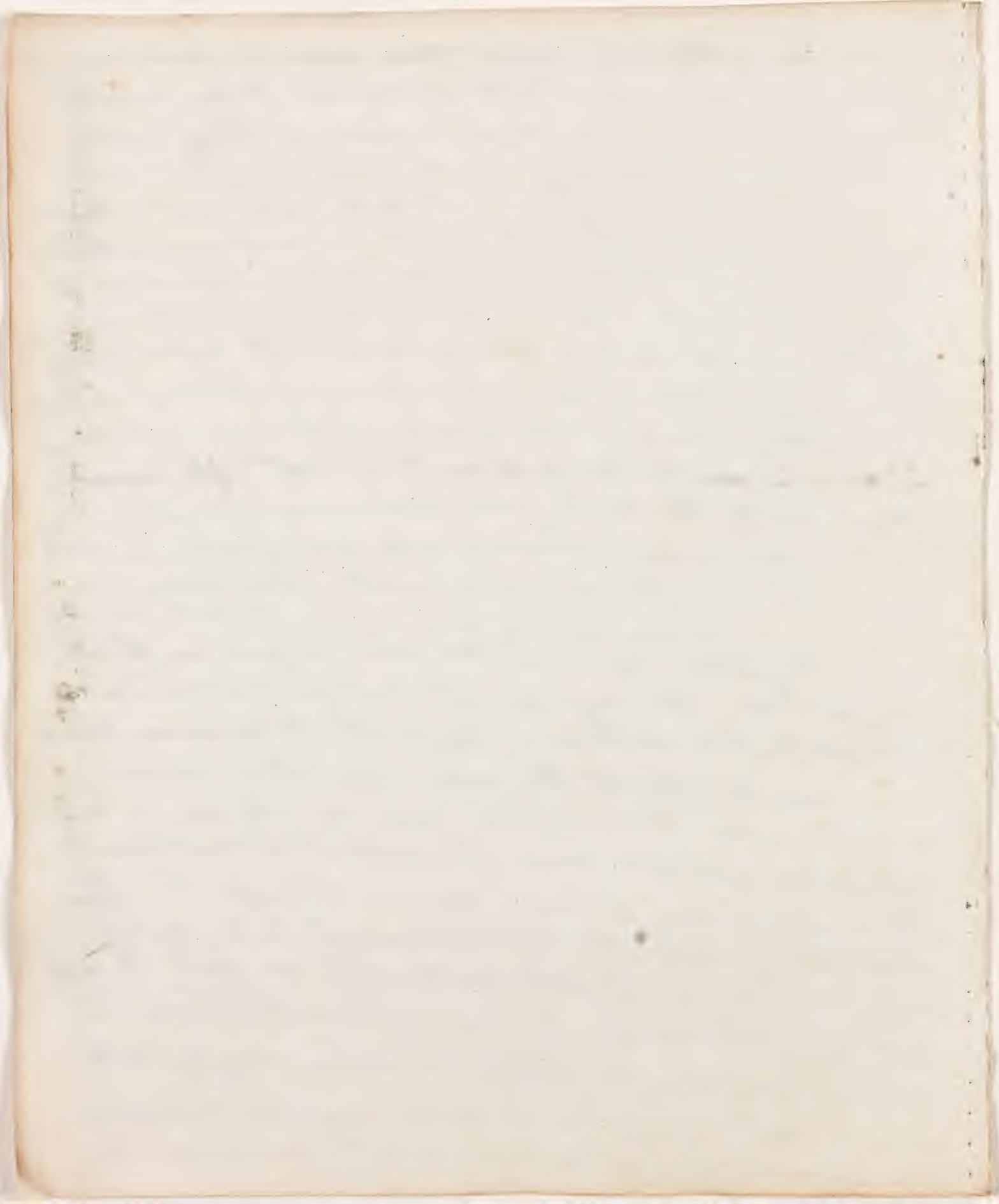
The shore was rocky & barren to a degree. On the shore was a grassy
the same creek as we had seen at St. Jago & St. Pauls rocks, an
abundant or sea star with long black spines which nestled in the
holes of the rocks under the sea, & 2 or 3 species of shells were all I
saw. Except a small banded fish in the pools, no sea weeds, nor
maritime plants. The beach was very narrow & formed of the
coral rubble of the volcanic rocks.

He immediately commenced ascending the hills around the
rock the hope of penetrating to the other side of the island. Some
the valley descended to the sea, he ascended over loose stones
covered round them with a grass & a crisp fern.
The stones were covered with lichens of many kinds as were

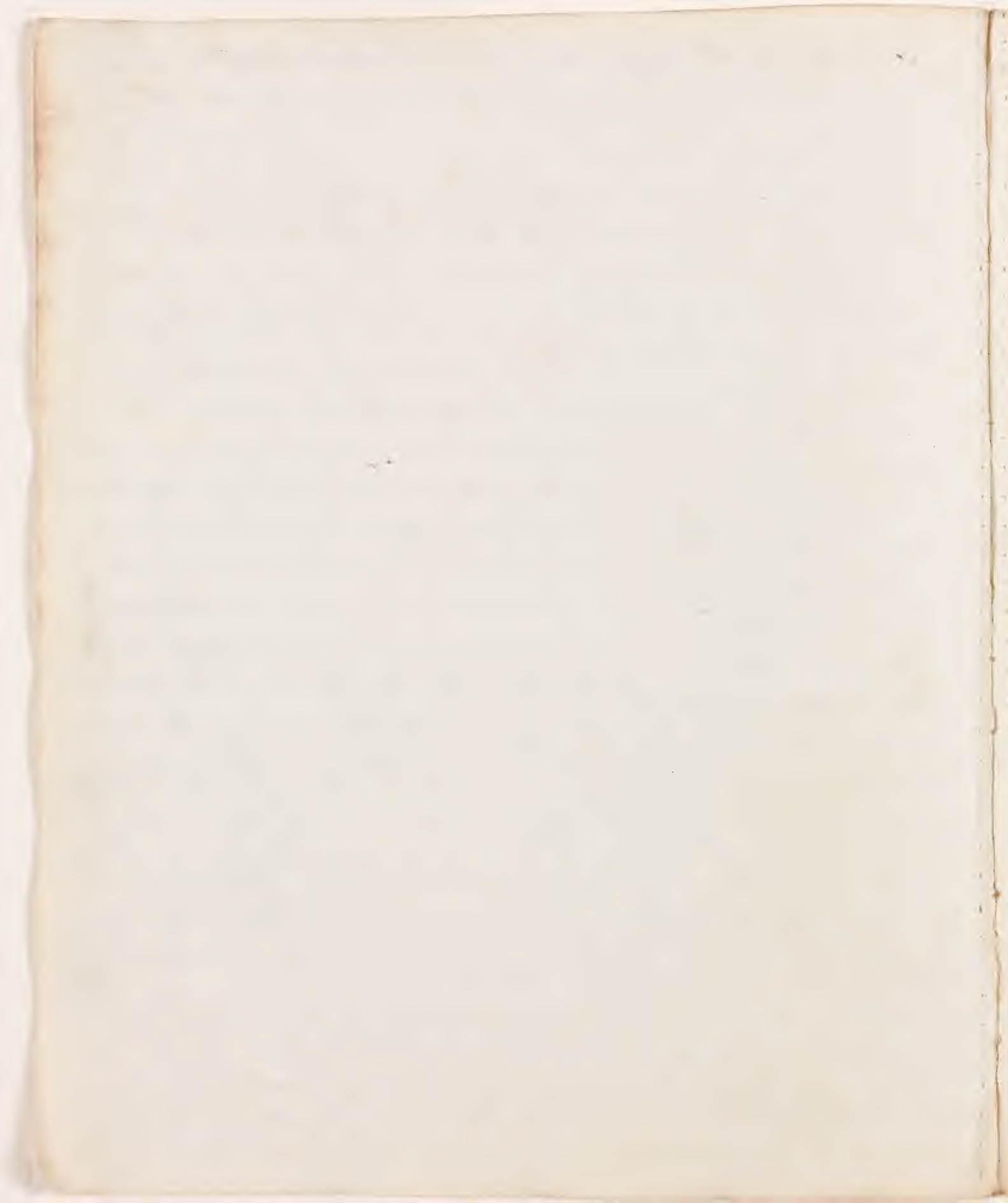
Age of this Cypress. proves the soil to have existed as it is for many years
& that no internal heat or torrent could have destroyed the tree.

How? How? Why?

119
a few pieces of wood we found. From about we met with 56
a kind of land crab, a short & thick set scabrid looking animal
it was very common under the stones. Head a reddish yellow
with black eyes & a very large mouth when angered it would
take up the shutters position fix its savage eyes on you & throw
out its claws & place them to its mouth in a menacing attitude
as much as to say "I'll eat you if I can" it reminded me of the
attitudes of some of the I. Sea Savages & Fingers & Cook for someone
who threatened the Whites by making canniball signs to them
when caught it had a bad habit of throwing off its claws so that
after collecting several I only procured one specimen with difficulty.
It occurred for the first time at 1000 ft. After ascending
about 700 ft. of this series of loose stones we arrived at a
complete unimpaired barrier of cliffs quite insurmountable
in most places perpendicular & smooth & others broken into
a series of angular masses that gave way when the least force was
used & the latter was the only
animal I saw (Horsburgh says birds & fish & plants are abundant)
the vegetation had not altered at that height. A conspicuous plant
was a isolated tufts with thick roots & large heads of flowers.
a very beautiful leaved ^{epiphytic} ~~epiphytic~~ was very common it had
long slender filiform leaves & often produced thick black mouldy
sten by immovations like some *Agave* (*Ludwigia* &c). There
a Pool looking grass & then a lot of lichens & the fern were all
could find of plants. The little winged things were full the nests
of the tern & Shearwater. The former is the most attractive bird
its form & its unsuppressed feathers were almost dazzling & the
engaging look of intelligence & a specimen was quite charming
when it would come within arms length of us hovering close



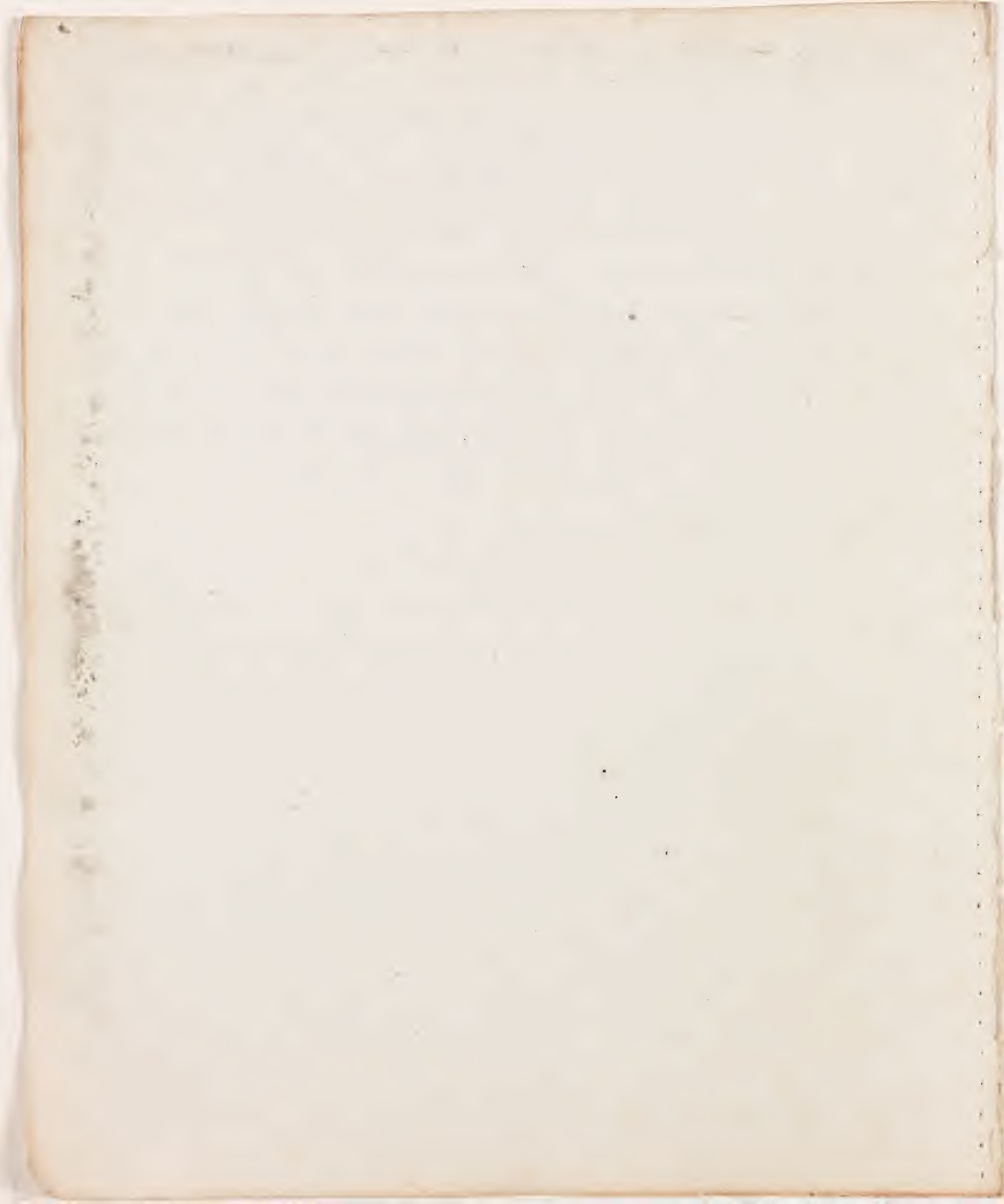
round our heads, very near. Then standing itself by means
its wings & tail within a few feet of our faces & fix its piercing
black eye on us with the most enquiring look. It seemed to me
a perfect emblem of purity & innocence. so unobtrusively did it
approach us seemed as if it were with friend & sister. Nor was
its confidence easily dispelled. After being fired at, it not only
it would again approach & sleeping before us as we ascended
appeared to guide us up the hill. Its solicitude for its young
was very remarkable. It was its young on the bare ledge of the
cave when it forms a too conspicuous mark for the sailors
the sailors. One poor animal closely protecting a young one
stood a fire of upward of 30 stones most of which struck within
a foot of its nest after being three times wounded, its leg I believe
was at last broken it deserted its charge & retired to a rock
a few feet off when it was turned & with its wings raised at its
young. Which was soon struck down & came tumbling off
the rock. When taken the young one showed fight, except having
some down among the feathers the plumage was the same
as that of the old bird. Having exhausted the resources of this bay we
took the boat in attempt to land in another bay to the N. of the same
work. we embarked with great difficulty having to creep under a ledge of
rock up to our middle in water & I was very nearly washed away by the sea.
our disembarkation was also very troublesome. it was at the foot of a
high mountain when the top of which some green trees were growing to which
we ascended to ascend but after reaching 1000 ft had to give it up as we were
unable to pass among boulders as I was afraid. No new plants or any other
objects were seen. On our descent we met another party who had gone
to see a crop erected as the carved wood said by the chief "Heber" for the
Queen. Some larkspurs were found near it & a good deal of a wreck of a
scaffold that was charred here many years ago. After getting a bucket full
of fresh water & some minerals we went on to find a place of Captain's



partly returned on board. - The east of the Island is Barab. Volcanism on
 a part of the main fire cone. I doubtless sometimes very large sheets
 of brown lava? I saw in samples. it is of different colors & attracts the water
 as strongly as the vitreous light. Small distant portions of
 Lycopodium were found here & there. The following are the recent productions
 of the island. - goats, pigs, Shearwaters, Terns, Boobies, 2 sea shells
 - Mollusks, Echinus & several fish - Hemerodius? & Callosactes common
 domestic flies, ^{spiders} sea scorpions. - of plants 2 Ferns, some Lichens, & seaweed
 grass, & Cyperaceae. - A tree unknown & the stems dead of weather. -

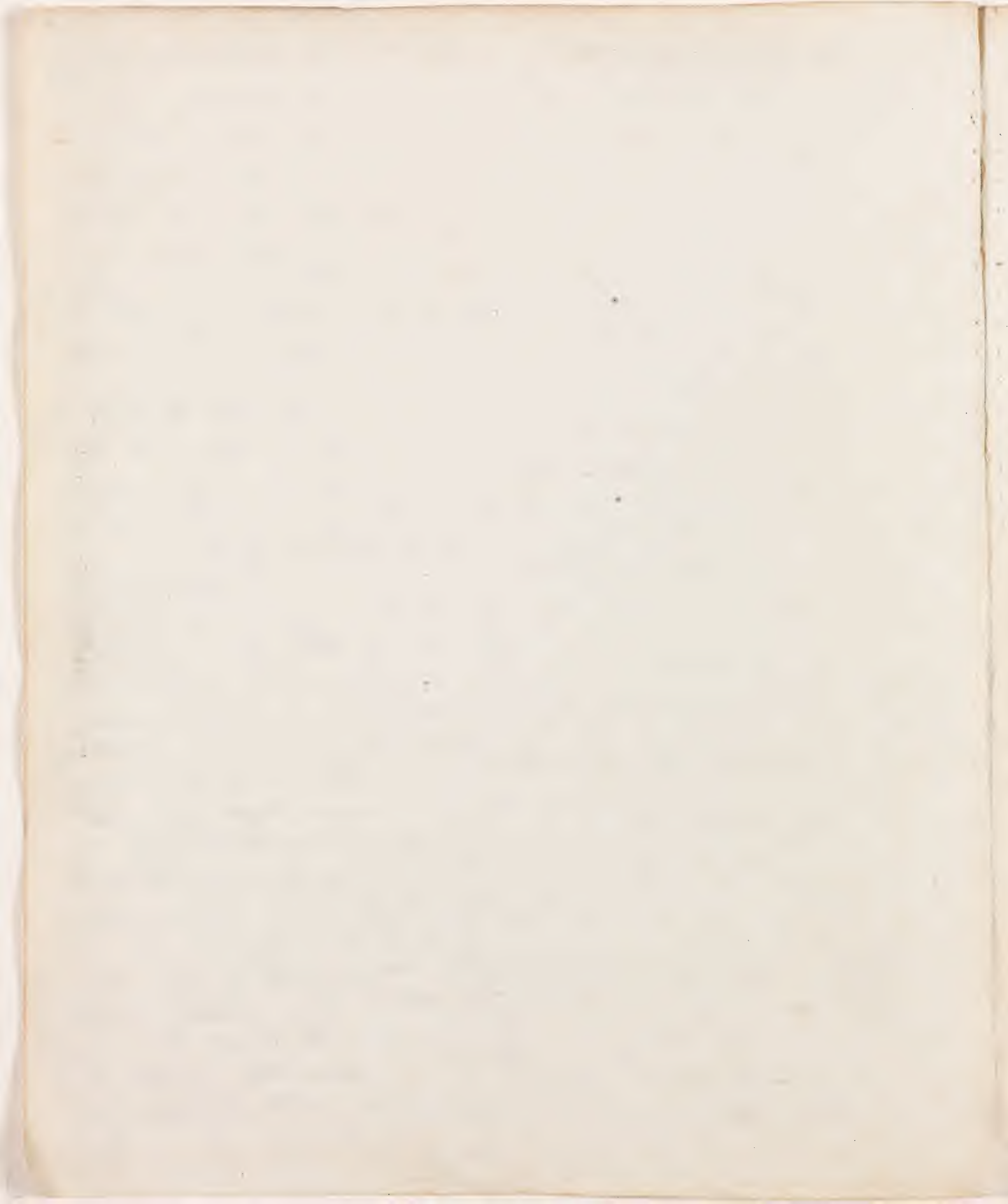
of minerals green stone & different basalt, Lycopodium mica & hornblende.

Some of my collections I took by the ship in contracting for Bounty bay some
 & some, given it by one of my independent points simultaneously to Bounty bay in
 L'Anse-au-Loup. - Captain left a pair of Tools



Sunday January 31st This morning the Robert & Frier cast anchor & the
islands of James town at Helena. The island has a most forbidding aspect
more so than any land I ever remember. Having seen the valley in which the
town is situated is barren & the extreme very narrow & fortified at all points
the houses are few situated about bottom very neat & clean but with little room
intersticed vegetation. Forts & guns are located from every nook & corner where
it seems possible to gain a footing. Except for the length of a few yards near junction
with the other equally well defended bay, the island is totally inaccessible. The hills
around are so high that nothing of the interior of the island can be seen, & they
themselves are so black & barren of such sombre coloring & such summits
figure that nothing can be conceived more sinister & more trying than the North side
of St. Helena. A few English, Danish & American ships were lying in the bay,
but no boats came off to the our boats are well loaded with provisions,
food from there, no wafter vessels, nothing to congratulate us after a 74 days
cruise or to make us keep the day we anchored in St. Helena sweet.

Saturday evening February 1st This evening I landed with several of my
companions to take a look at the town. We landed on a very small quay so
small that only one boat can be in at a time we then passed a long line
of guns & mortars & crossing a stone bridge we entered the town by an arched
gateway. To the right was the famous ladder hill 600 ft high & so steep
that it is only accessible by a most circuitous road or by a ladder of 600 steps
that runs straight from the town to the summit without a break or curve.
It was like all sailors first visiting the island we landed & after some rest
arrived at the top when there is a large fort & barracks & for the Artillery -
7 minutes is the shortest time in which the ascent has been accomplished &
1/2 the descent. The batteries below have been manned in 3 1/2 minutes by
voluntary men from the garrison. The view of the sea is magnificent
embracing James town at our feet nothing however of the country is to be seen
from the higher hills surrounding us a few specimens of a *Palmetto* (*S. palmetto*?)
& *Polulaceae* are the only plants that occurred in the low ft. There is hardly
a tree to be seen from the top. The appearance of James town is rather pretty
when viewed the right side of the valley the principal trees & it are ^{left} James town
& a few tropical plants. The church & a few government buildings stand
upon level ground an at all striking & handsome.



110
60
From the square we proceeded up the only street, lined with neat white
houses & a few shops. Every thing however seemed deserted, no carriages or
carts no ladies & gentlemen or any thing like Boston. The cause of this is
that like most military garrisons it is a most atrociously filthy town
another attraction for families to live in the country is the exquisite heat of
the valley, which is as it is on all sides & exposed to a tropical sun. In fact
the only one or rather boarding house (Lambert's) is a wretched establishment
where every thing wanted has to be sent for - i. the first room stand two
billiard tables cut to pieces, no one is allowed to play there because the
house is not licensed & that office make permit costs £20. Besides
atrociously heavy taxes an imposed run on the necessities of life barking men.

Solomon's establishment we next visited he keeps a large shop with a most
splendid boarding house attached. This is a very old rich assistant, Merchant
& has experienced either his hospitality or his extortion as it suits his fancy
of which he shows a strange mixture. I was charged 12/ per dozen for some
ale but when in the shop & asking for a glass of drink, intending to pay for it
& having immediately showed me into a splendid apartment where
apartments were offered me & nothing to pay. The drawing paper he charged
4/ per small sheet yet he gave me the use of an excellent house for nothing.
His prisoner bought largely from him & being in bad health, on his leaving
Mr Solomon asked him to accept of a present of peaches grapes figs &c. After
I left him a letter of introduction. I had paid one & Mr Locke the chief justice
where from is situated 7 miles from James Town.

Sunday July 2nd. This morning with Mr Mc Cormick I landed & we
waited upon Mr Gulliver the harbor master who promised to take us out
the country to the house of a Mr Gordon one of the chief merchants of St Helena.
& the first free settler who had not come out as a soldier like Mr Solomon
by the by it is not generally known that the latter prisoner though a free man
on the island but his property though immense is all mortgaged to
Col. Dalrymple. After service which was performed to a woman then
conscientious resolution we proceeded out of town. We were accompanied the
road being too bad to walk. There are only two roads from the town except
the one that leads to the top of James Valley, there is no other.

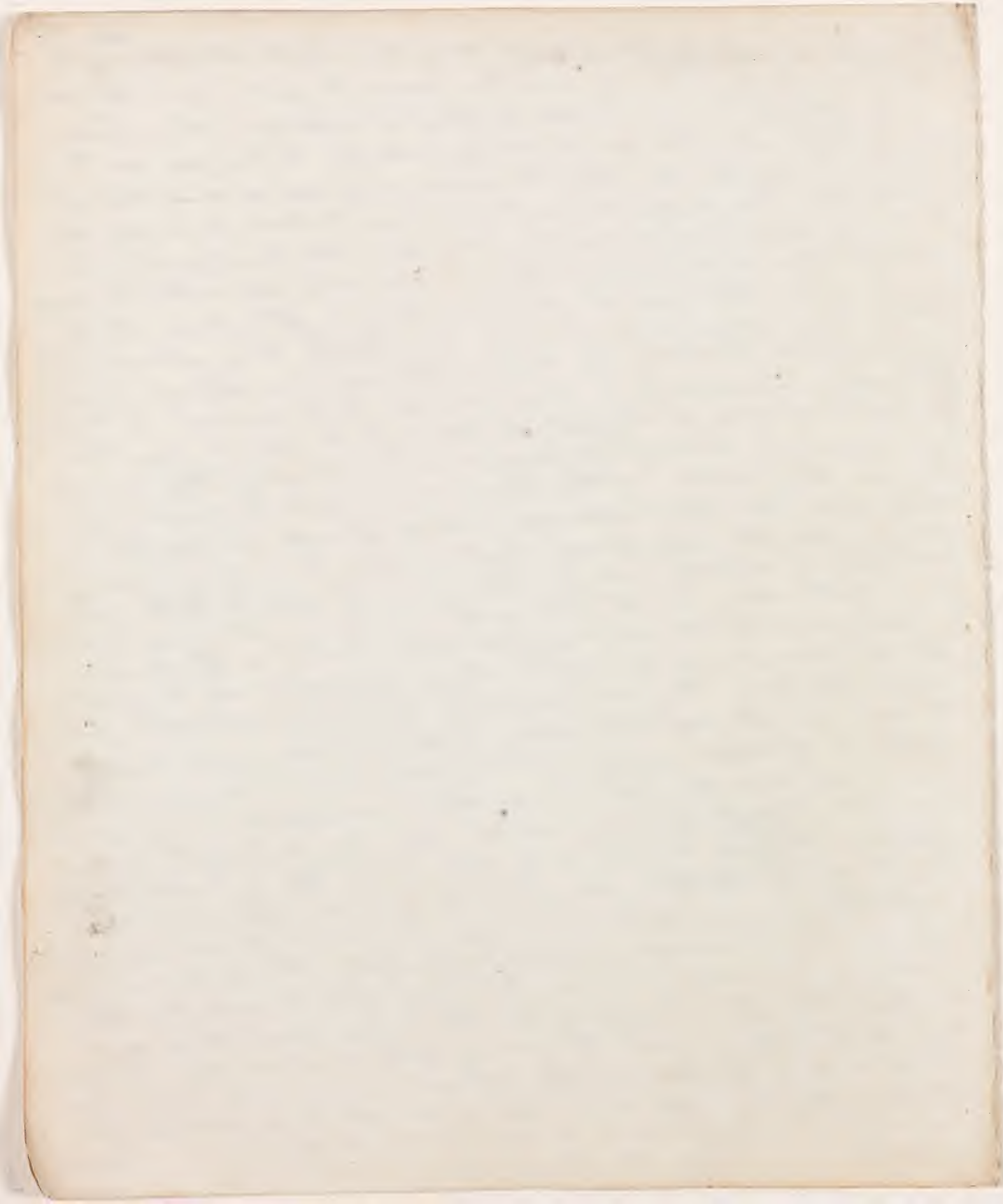
111. 111. 111. 111. 111.

one of them seems to the S. E. of the Island ascending the E. side of the valley by a long straight continued plane & passing through parts of the other that by which we proceeded runs by a zigzag line up ladder hill & then runs to the S. W. of the Island. After a half hours ride up a barrier ascending road we found ourselves at the upper end of the ladder that we had ascended - for in a few minutes we then struck off to the S. up an steep hill with a few cottages on it crowned by a house & castle called the knoll on which stood a few scotch fir *Australian* *Acacias* &c. The ground was very barren nothing appeared but some *Quercus* the *Schola* & an introduced *Myrsine* with. A ride of 4 miles opened to us a totally different scene the country broad deep valleys filled with scrubby plants & covered with fir trees among which there is most warm weather situations with gardens pastures &c. *Large* & black-*Gypsophila* *Hibiscus* *Sida* *Mundulley* is abundant the scenery was perfectly distinct & heightened by numerous *Myrsine* & *Myrsine* was in the other. The whole interior of the Island is of this description & is very plain very beautiful. Birds were scarce, *Phaenastur* & *Partridge* are present by strict game laws, *Canary* were not uncommon as well as *Tree* & *Other* small birds, (the *Sparrow* is not found here). *Parrot* are scarce. The *Blue* with & *White* are common above *Parrot* (*Polymonaster*) *Blue* butterfly more fast than ever seen. - We passed the gates of the Governor's estate with named *Plantation* house near which is a very pretty church surrounded with tall *Cypripedium*. In many places the road was cut through from *Par* trees whose roots straggled down the banks, forming a winding in every respect of their *Caledonian* brother is strongly in red that I could have looked under their shade for *Pyrola* *uniflora* & *Linnaea* *borealis*. The roads are cut over their *mountain* trails with inconsiderable labor, they are very good though in a few places our horses were up to the knees in mud. After a 4 miles ride we descended a hill into a valley that opens out into the sea & came to Mrs *Jideon's* house on the top of a hill surrounded by *Myrsine*. Mrs *Widdes* house is on opposite cliff the weather was warm though we were surrounded by mist.

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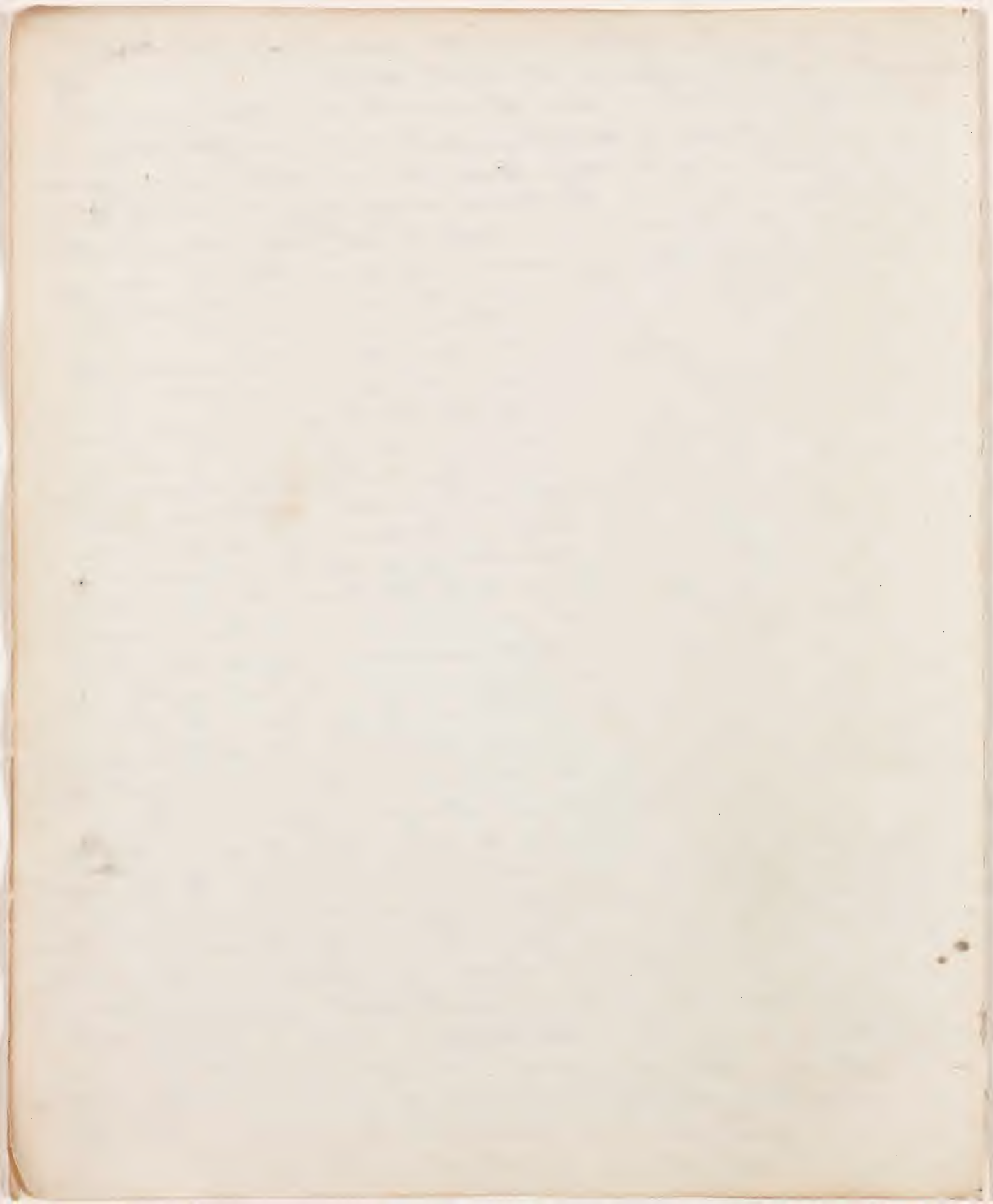
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and fog obscured portions of which were driven by the wind over the hills sometimes obscuring every thing even a few yards ahead, the game a delusive appearance to the country which it certainly is other respects did not mislead. From here it was my intention to have gone over to the hotel but the fog in the intervening valley was so dense that it would have been impossible without a guide to have found any way. As it was I was warmly welcomed by the people & the family when we experienced true Highland hospitality one and all were rustically dressed & a fire made to add to our comfort. After dinner the fog lifted a little at the heart of the cottage & a country house situated in the valley & which we were open to the sea & the landward & is bounded by hills on all sides, to the right of Glencoe Park 2690 feet presents a long rugged wall covered to its summit with a soft slope that descended from over the precipice & clothes the whole side with the richest green lower down the slope & the slopes were covered with fine plantations various which the white houses chiefly of returned E. I. C. officers were situated. Our position was on the hill to the N. & for or rather bay when the white reef was rolling heavily on the beach & the white line was broad & distinct though our distance was too great to hear its roar. This day (Sunday) though quite unpropitious from the violence of the surf & its exposure to the S.E. trade is still further fortified by the hands of men. Batteries indeed bristle every where on the island. The hills close to the sea are rugged & were deep all barren, and in little parallel fissures & valleys. Some very remarkable ones are situated on the hills to the N. mouth of the bay they are perpendicular from the brow of the hills, one called Loch is a cone, Loch a more considerable one still looks like a huge dog placed on its end, Loch children the other two are smaller but no less remarkable. They are narrow isthmuses of rock whose bases were the core of Loch is smaller than the other part their formation is basaltic & some parts columnar as I could detect with my glass the columns lying sometimes horizontally & the places erect, the disintegration of the surrounding hills is said to have left them standing. After dinner having given the ladies a specimen that we could pay them another visit we were obliged to depart, it was dark by the time we reached the town & went on board.





or rather two or three of them, one of them bearing cones, the largest
 two species of *Lichens* grow on its trunk & stems.
 Being already about 1200 ft above the level of the sea & those being a good
 and crossing the ridge of the peak at about 2100 feet our track ascending
 was very light at about 2000 ft. ~~the~~ which is of the original vegetation
 of the island common. The trees are chiefly small & belong to the
 Compositae. Their trunks are much branched with fleshy leaves only at the
 extremity of the branches & compound of white flowers. There are several species
 all called cabbage trees. The summit of the peak is a long irregular broken
 ridge. I was at finding a tree Fern, the first I had ever seen. They
 are generally very small & much among the other trees one or two however
 were quite large. I had relief against the sky the trunk about 12 ft. gracefully
 curved & covered with *Propolis* & parasitical Ferns of a rich brown color here and
 there a small *Samolus* of a very insignificant size. No abiding ponds. The ground & foliage
 the first time it grew both on stones & on the trunks of the tree ferns & cabbage
 trees. Ferns were very numerous & beautiful, *Propolis* were few. *Euphorbia* & *Conium*.
Ruellia very beautiful with large white bell flowers like *Surcoufian* *Passiflora*
Albida. A bumble said to be introduced. *Arum* of *Maro* a small green
 plant & a bird like a sparrow. Shells, small species very common on the
 leaves of the cabbage tree. *Spiders* not uncommon. A few small moths, a mouse
 & *Lepus* ^{capensis} *capensis* is a little introduced but there are none in the island now
 any more as I have not seen any. Both day & night. Of the tree fern & cabbage
 a small trunk about 2 ft long its attachment to the ground is slight. The
 stem is more or less covered with *Polypodium* *exaltatum* very old specimens
 of which are probably blown off from the upper portions the tree constant wind
 blowing them. The *Polypodium* thick & matted towards the base. The rock of which
 the peak is composed is volcanic often very porous the soil on it from the
 vegetable decomposition is rich & good. The view from the summit is splendid
 looking in all the island which appears like a picture set in the broad beam
 of the sea whose horizon for my elevated position seemed raised all around
 The island is so mountainous that the peak is only seen in one place that is
 Sandy bay. After gazing around me with great delight I commenced
 to descend to my companions who were waiting for me at some distance
 down. A very long descent I took a party consisting of *Arum* *Maro* *Passiflora* *Albida*
 in. I think I & Capt Alexander the latter returned to Mr. Liddell with me.



We returned to Mrs. Laidley with a good appetite for dinner - at 6. where after
 putting the more delicate & my favorite into paper we sat down to an excellent
 spread among the novelties of which was fresh salmon sent out in tin cases & cold
 preserved - the same and even the very high price of meat in this colony renders
 this one of the cheapest forms of diet animal diet. - I found from salt provisions
 we carried out 5 times a week to all public offices from the Governor
 downwards most vegetables are also very high priced. Potatoes 18/ per cask
 Cabbages are very few but cheap. Fish, a small Mackerel & a very large one
 the Cavallo an excellent but clear, Pomato & all those are called St Helena beef
 & mutton are good though not very abundant and they used I believe to be more so
 when the Islanders are still called from stocks in names they are not
 ashamed of. The St Helena Gulls are the most beautiful I ever saw
 this species from the quantity of pheasants in the colony with which birds they
 mingle, the markings of some birds & feathers we have seen on board
 is just that of the pheasant sometimes even of the color, their bodies thick
 & legs are also very long. - After dinner we were visited a few of fine good
 which was most comfortable. Next morning I was surrounded, in the first
 morning by a great number I have been in, since leaving the harbor, in
 except that two or three of the servants are colored whom I never met before
 there was nothing to destroy the illusion that I was in Martin's time
 was broken of Mrs. H. among the kind friends who had introduced me here & it
 proved for the first time that the sailors did not know me then & it
 we were up at a late hour for our ride back to our comfortable bed from
 the total darkness of the night we required a boy with a lantern to precede
 us.

Thurs day July 6th. So very much is talked about Vapors from towns that
 though I felt very little interest in seeing it I was determined to see some
 double a path which name I had learned from my previous indifference & to go
 & this morning I got there Richmond or Kensington Gardens - Taking my
 botanical traps which I might nearly as well have left behind me as I was
 the S. side of the valley of James Park. The road continued ascending in
 a straight line along the side of the hill into it reached a height of about
 400 feet its banks were barren in the extreme nothing but the Larch
 & the Portulaca & other flowers at about 600 feet then it was cut there

The Island consists of a mountainous interior the highest peak Seaview Peak. 3000 ft from the centre to the S. & broad precipitous valleys the same to the sea & the N. & S. the valleys are some narrow & the entire very little percent level flat tops. There is hardly any sea coast when it exists it is too steep & rocky to allow of sowing for plants. The central & highland part of the Island is the only more improved part & that chiefly to the N. & S. from the broad belt of Seaview Peak catching the snow then brought by the N. & S. trade. The hills to the N. & S. are probably of different rock for though equally exposed to the same winds they are totally bare of vegetation. This is probably also the reason why the well watered level lands dividing some of the valleys to the N. & S. are so barren. The northern valley as far as I can see to the base is equally barren. Their sides are almost precipitous without any ledge on which vegetation might rest, their bases are not watered from the directly and absorbing the moisture on the flanks of the hills. The rain only falls occasionally & it heat drops the higher parts to the southward and around the mountain mostly the moisture. During in last 18th they receive 8 times as great proportion of heat than the southern side & this heat is ^{uncompensated} reflected by day & is counteracted by night from the surrounding cliffs. That the rain when it falls

bed of fossil shells preserved belonging to the species *Mercurius* (see
Pandora). Near the top of the hill the road takes two or three sharp turns
 as different vegetation commences large patches of a *Mercurius* *anthracinus*
 introduced from the Cape with yellow flowers & *Impatiens* *claus* are common
 two kinds of grapes on the wire grape & a *Sp. of* *Cynodon* which sprang up in
 immense abundance on one part of the island after the destruction of the
 trees, small patches of a *Flax*, a *Compositae*. One shrub with yellow
 flowers of which only one or two carpets side I form a black berry eaten by the
 children - A fine new *Adiantum* *securia* like a willow, a large overhanging
 with large yellow apples on the top of the hill was a large plantation of
Scutellaria *peruviana* with the *Adiantum* & *bramble* bushes the stems of these
 bushes were covered with a light red fungus which it made the bushes
 appear curious. This hill divides the valley of *James* from *Park*
 Valley at the top of which, I agree with the *Compositae* in *Adiantum*. On reaching the
 top we were opposite Longwood it seemed a pretty plantation on the edge of
 a steep cliff on the opposite side from us to go it one small ascent to the
 head of this valley & descend its gorges to the other side. The *Adiantum* *peruviana*
 with *brambles* & the bushes had a few *roses* on them. The *Compositae* were common
 not describe it is situated at the head of this valley guarded by a *Centinel*
 stream. on turning from head upon him numerous children appeared you
 with flowers, *geraniums*, that the Emperor was fond of he burning into a
 very pretty *Centinel* to get some at 2/ per bottle. The cook was one room
 above than our room. The Emperor with it, it was the Emperor this that did
 with the other thing our *Porter* *slaughter* came in with the Emperor her lips
 his subquity certainly astonished. As a last resource I commenced gathering
Seichens surely the hero of *Managers* could have nothing to do with *Seichens*
 one stone wall, when another old interested *Adiantum* came to inform me
 that the Emperor had paid me out the position of his tomb & that the
 Emperor was fond of the wild plants I had in my hands I partly took to my
 feet heartily wishing for that for my own sake as well as for the good cause
 of humanity the Emperor had had his wish of having a *Seichens* *Adiantum*

brought little more than is proved by the shores now seen. Nothing
showing little effect upon the opposite shore. These shores are never more
than a few straggles. The island was once it is said covered by native wood
this is proved certainly by tradition but for the species of native wood. Every & found
to this day in different parts (see Cook's voyage). It is mentioned that goats
were the principal agents in destroying the vegetation. When the island was in this
state no doubt its climate was modified as vegetation is well known to
alter the seasons or their nature. See Herodotus account of Egypt, the old
writers account of the N. Sea coast, Humboldt's narrative.

The principal native wood of the island consists of soft brittle composite
15-20 ft high with trunk 8-12 inches diameter. It is remarkable that
there is not a single vegetable native of the island that is used for food, fuel
building or any other purpose. Hardly even for firewood, pine cones being substituted
before the Caribbees & for pine & any size houses & skeletons used & the sent
out from England. If cultivated land there are only acres & of land
fitted for cultivation. (Forster's voyage). The Pasturage is of *Anthoxanthum*
(the only native pasture) & other introduced herbs. *Trifolium* & *trifolium*.
All sort of trees are introduced. Water cresses &c. & are chiefly European.

of Mitani - We returned by nightfall to James River where Mr. Dodge, our
kindly neighbor, waited dinner awaiting for two hours for the gentlemen
myself.

Saturday, January 8th In company with Mr. & Mrs. Smith who had joined
with me another by canoe we left our port and entered a fine bay.
They stop here & then to strike across the Island to Sandy Bay fully 6 miles from
James River. The road was the one we had formerly traversed
in going to the Japanese Tomb. The walk up which for we had not been able to
before. It was most fatiguing. At the top of the hill we met some
Indians who offered my companions that they would surely be disappointed
in going to the Flagstaff if their object was to find a deposited load of gold shells the
way we then chose we relinquished it & according to the head of the
party where the Tomb we struck off to the south and leaving the road for a
few minutes to the top of Jimas peak. The views as we ascended were splendid
the air too was more pleasant than usual. A second species of *Passiflora* &
another *Convolvulus* tree were the only new fresh plants added to our collection
on the shoulder of the peak we descended to a road that took us to the lake
Surrounding Lake Lewis & James. Buffaloes were found on the road side - we passed
a few herds of cattle in fine condition they fed on the sweetest and most nutritious
herbs and some were larger size than I saw in England & in *China*. Also abundant
lyte parts of some bushes with red buds I ascended the *Convolvulus* for some
time the summit is about 50-60 feet the trunk straight 3/4 ft in circumference
erected for about 10 feet when the branches spring out in all directions of 6-8. The trunk is
a rich brown & presents the appearance of parallel rings or convex ridges situated
close together smooth when about 1 inch in height at every 3rd - 12th a small
more one intervenes from which the hard stem of old branches project
at about 12 feet these rings disappear & the bark is covered with the
scales and leaves. The branches are present like the bark & appear
lustrous they are covered with the green leaves. The ends of the first branches
which touch the ground. The cones are situated at the terminations of the upper
branches are most solitary & some upper? They are 6 inches in diameter
& about 5 ft in height the scales are numerous closely encircled plates
thick with spiral prominent points I was delighted with being on an
American though we were from one island of branches to another was
appreciable the leaves are so stiff & short that I had to strip a piece of each branch
before I could lay hands of it. The cones too are situated so far back on the top branches
that I nearly despair of obtaining any I encouraged however to pick two of the

At San Pedro de Macoris I saw a pencil tree bearing a small ripe fruit of the shape
of an oblate spheroid being very round vertically compressed the stem was of
the same shape. - *Casaurina algate*

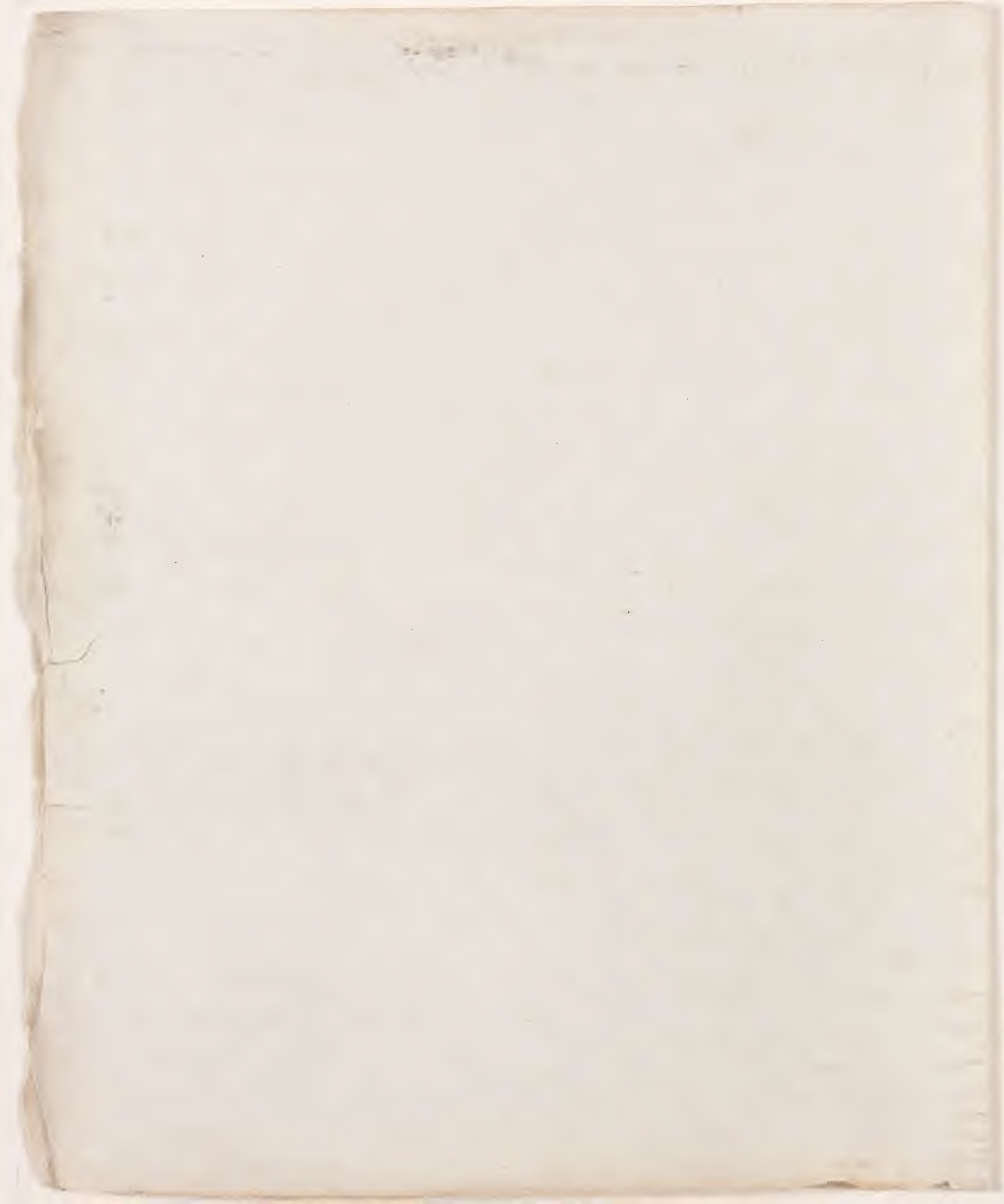
which I saw. When with the tree I could not help thinking of the account
of the Brazilian of the Arabian Indies & how David Douglas's adventures among
the trees of N. W. Am. Grasses of any size are so rare in our garden &
the trunk of the native ones being according to all travellers testimony inaccessable
it afforded me much delight to think that I had been on a sort of my morning
and not know one with regard to the Brazilian Grasses and how I nearly
missed them. I can now look at the same thing set in my cabin by a tree covered
with green foliage. Two species of Lichen grew on its stem branches.

Some young trees of the shooting of under its shade & a large one about eight
feet high to be shot for its bark as some of the crew have been joined with
unsuccessful experiments there. I have tried in vain to propagate it from seeds. Nothing
further to be known of its history than that it was planted by the former owner of the
property who received it brought & another thought the seeds from Brazil. In
summer however I found a partly frozen creeping over the damp which washed walls
growing from numerous cracks as to cover the one side like a mantled wall.

The following plants will grow all over the Island but flourish best in the damp
shaded parts. Holly, Ivy, Hawthorn, Rose, Honey suckle, Asclepias, Datura, Hyssopus,
Strawberry, Primrose, Myrtle, Bay Laurel, Tea & Coffee, Lemon, Mosaic, Japanese
Camellias, Cape hollies, Petals, Carrots, Dahlia, Cyperus, Wheat, Lippium, Peas,
Two Rhynchos, Chrysomelos, Peach, Salvia splendens, Delphinium, Lupinus
beet flowers, Poppies, Conchoids, Tiger flowers, Nasturtium Pini apples, Currants,
Strawberries, Gooseberries, All these Holland plants, Squamors, Beans, Beans, Beans,
Asclepias, Bamboo, Bright flowering Cereus, Cereus pedunc, Pelon, Jowels, Sage, Passion
Lemon, Jambos, Pigeon, cotton, Heliotropes, Sun flowers, Apples, Hyssopus, Iris, Tulips
Lemon apples, Magnolias, Orange, Mulberries, Passions, Mananas, Mandarins
Tobacco, Another, Cereus, passion flower, Jasmines, Date palm, Pistia, passion,
Pappas, Portulaca, Guava, Magnolia, Palma Christi, Cereus vil. Millagras
Ornamental, Lilac, Laurus, Thyme, Linum, Fern, Maize.

In arranging the following short tables to illustrate the Botanical geography of the
Island I had to depend chiefly upon my own resources after numerous inquiries &
could not discover what plants would succeed in one part of the island only smooth &
then therefore to depend upon the little I saw myself in two or three days previous
that I was to succeed in seeing plants that were cultivated about brought down for
show or pleasure during their flowering.

The Island may be divided into two zones & zones, the lower of about two feet
above sea level with much covered the middle of 600 to 1200 characterized by more
European trees & grasses & the upper or mountainous characterized by native



vegetation & few European introduced plants. - The native vegetation with
which Schale says will come under the same divisions except that the aquatic
plants described below on the S. side than on the N. in the mountain of the valley.

- 1 Native Mountain plants 5? perhaps the Native which Schale saw.
- 2 Native plants of the lower region 1000 ft.

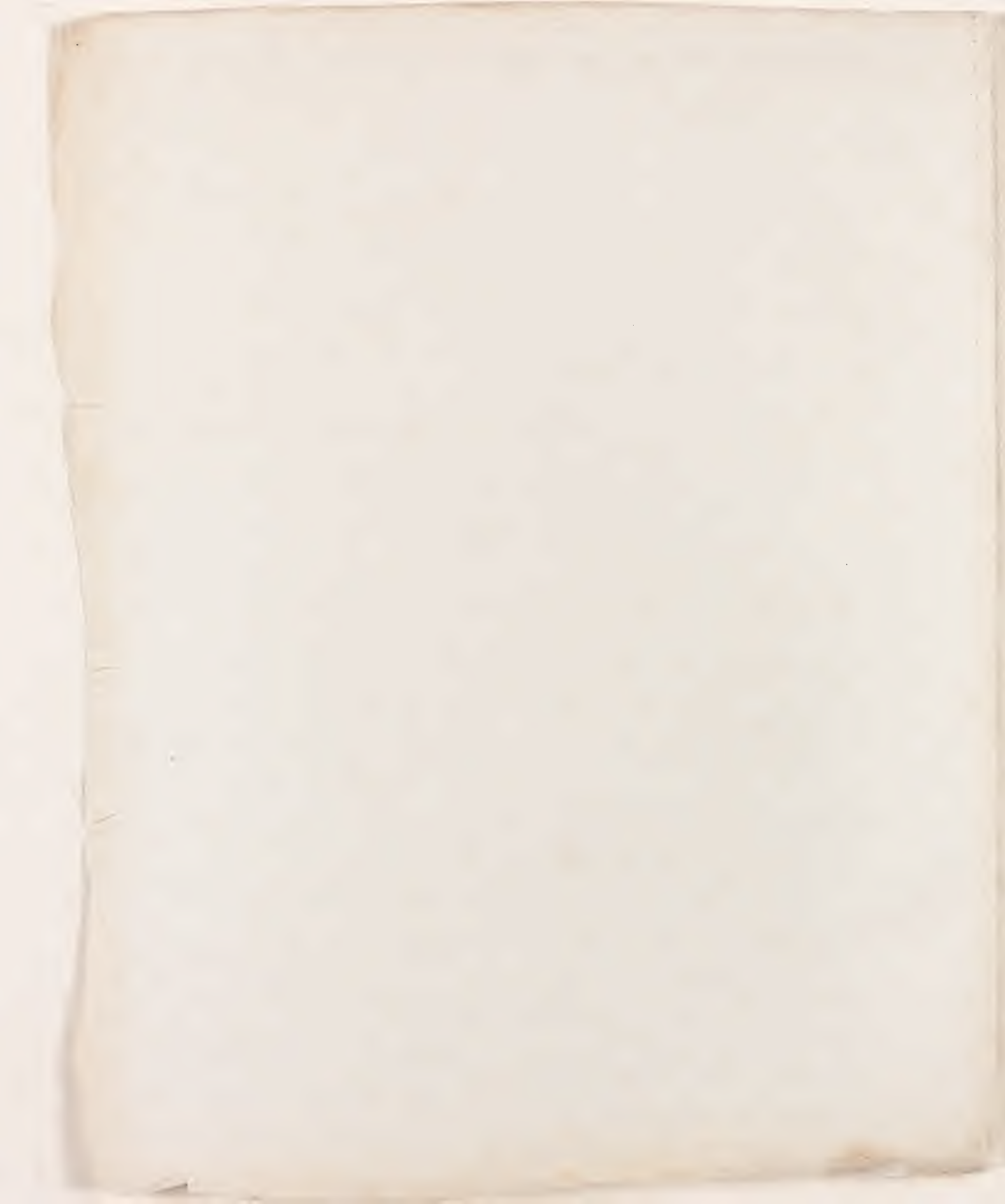
69

Synanthes angustifolia, *Conocaulus fragilis* Nutt? *Gnaphalium* *stellatum*
Physalis *lignifolia*, *Salsola* *selago*, *Sparganium*? *Eleocharis* *gigas* Nutt.
Smilax *coriacea* Nutt. & *Portulacastrum* *plant.*

- 3 Native upland plants (*Epilobium* *thunbergii*), *Helianthus* *altissimus*
Silene *peruviana* Nutt. - *Rumex* *crispus* Nutt? *Pteris* *caudata*, *Polypodium*
& sp. - *Physalis* *lignifolia*, *Physalis* (*aphylla*) (*Michauxia*
(*Hebe*) *altissima*, (*Verbascum* *luteum*) (*Gnaphalium* *stellatum*, *Polypodium*
thunbergii, (*Boehmeria* *spicata*) *Madia* *arborescens*, *Lupinus* *hispidus*
Asplenium *platyneuron*, *Chelydron* *rubra*.

- 4 Native sedge plants, *Spermatophytes* *Epilobium* *peruviana* Nutt. *Asplenium*
platyneuron, *Long* *peruviana* *salata*, *Ternstroemia*, *Gnaphalium* *stellatum*
Salsola *ocrostifolia*, *Eleocharis* *gigas* Nutt.

From Mr. Childs we went on to Mr. J. J. Jones & then looking over the hills
returned by dark & being tired to dinner then after spending a very pleasant
evening we returned by the road we had followed on the previous Monday & when
Ladell left returned on board. Thus ended my cruise & the illness on board
commencing by 10 AM we were again under weigh & by 10 PM had lost sight of the
some prospects very interesting indeed. From the mountains of the island
we saw the distant land of the mountains in a short space a deep forest
then attention & whenever any particular object was known every one seems
desirous to forward my views with by words only but by deed. From Jones back
I am most parts in complete darkness without introduction I was taken to his house
specimens of nature for each given me - I was given on my return a
short & leaving natural his tongue was very short that me. The library & the
Gardens were excepted spent a long while in endeavouring to hunt at the station
station at Helena. Mr. Childs, kindred of Jones seems never relax, both in
the field offered me the use of their house & afterwards on the further part of the
island from. Miss Julia Jones sent to me at Jones town a magnificent
Antennarian plant that grew at Jones land - One Mount seemed a
fine to visit his garden & so his collection of native plants are invaluable
great and I will be sure to be visiting his garden in the future & he



To another gentleman Capt. Simon when one day, taking up a book on my way
to Francis Smith. My pocket being very bare a sufficient indication for him to
suspect - his book & insist on my seeing it which he walked. There is
also a part of an English Reformer the 41st December. H. H. Simon. TD

Sunday Evening July 9th. A shower of little fish came on board. There were not less than 20 this evening on the weather side & some jumping over to the opposite side of the deck. The report was swelling a little & going "bustle" wind strong. They died almost immediately after they reached their watery beds, beating, motionless. Taken bodies.



J. S. M. D.

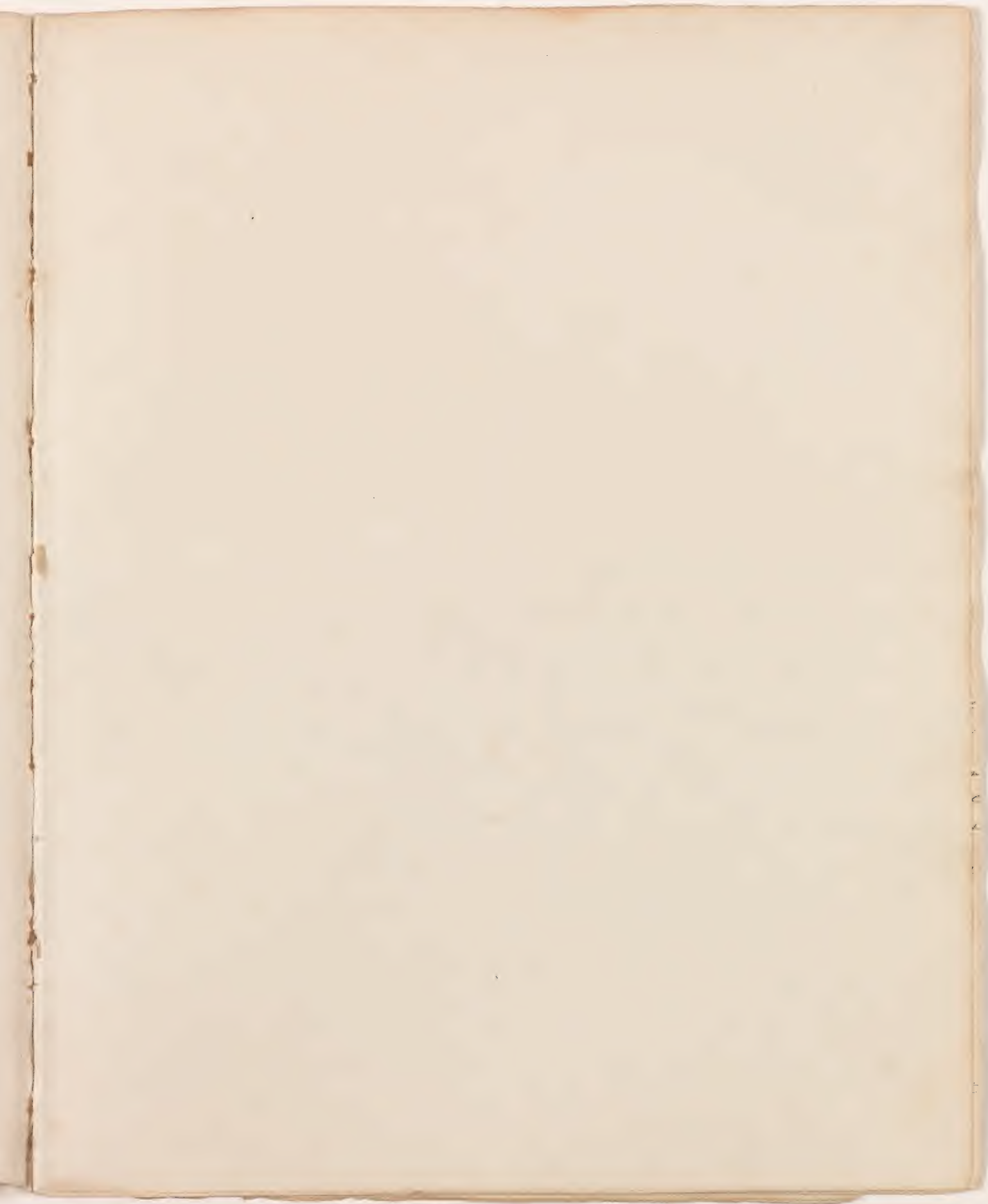
71

Journal

Commenced, April 8th 1840.

Finished September 8th 1841.





April. April 6th 1840. Worked out of Talu Bay & stood to the S.E.
 7th Croising the Agulhas Bank. which abounds in marine animals.
 12th & the sea with specimens of Macrocypris pygmaea none however of
 the gigantic size mentioned by former voyagers - The following
 were at different times taken in the net & had not been met with
 north of the Cape. - Pisces, 3 sp. - Ephalopods, 2 - Plutei, 2 - Asaphus
laevis Prothura, 2. - Crustacea, 11. - Besides these, 20 species were taken
 & which were common on the lower latitudes. One crustacean animal
 of the collection was very abundant, & during the day shed a bright
 ultra-marine blue light about the size of a shilling in the water.
 On looking over the ships side they were very evident. Under the
 microscope the animal is nearly transparent, mottled with light red,
 which changes in some lights to the most intense blue. In a tumbler
 of water it looks like a fish scale. A small Argonaut was
 also taken (n) which readily left its shell & withdrew by its sucking
 head down to the bottom of the basin. Several specimens of a
Carinaria of small size were in the net. none of them had any
 shell or a vestige of one. I have not this animal sometimes appropriate
 the shell of the Argonaut, & thus reverse the formerly received opinion
 that the Argonaut uses the house of the Carinaria. Of the fish two
 were very remarkable a small Pteronotus (n) & an apparently

new species of *or* Ribbon fish, remarkable for being destitute of any other fin than the small pectoral ones, it may be the same as (n) taken in the Tropics - The head is most remarkably small for the body of the most wolfish form & the eyes are particularly bright. - *Reptalia* *testacea* were extraordinarily numerous, often filling the net to the almost total exclusion of any thing else - they were generally solitary but on the 9th the ship passed through some immense, broad, brown bands, several miles in length & from a few to many yards broad, which consisted of a composite or juxtaposed *Modiola* (n) the segments seemed to have an organic connection together, but their *of* indefinite length, & known simultaneously in many lines. *Reptalia* were very abundant, & some of them *phosphorescent*, especially one large one (n). A small one armed with two very large spines was common (n) but seems confined to the latitude of the Cape. There was an evident want of the *Autostichus* *phosphorescent* *constans* so abundant in the lower latitudes - *Pyrosoma* very common. *Phosphorescent*, common. A new *Porpita* (n) very different from those abundant. The food of the *Squilla* seems to be *Hyalella* several of which were taken from the sacs round its carapace. A small *Stomatopoda* is a central common opening underneath - *Stomatopoda* 24. *Stomatopoda* & *Stomatopoda*, some particularly numerous. *Reptalia* *testacea* generally lived together when young & separate when older.

17. Of Birds the large Albatross began to be very common, as also some large dark colored Petrels & two small stormy Petrels. The location now began to assume a winter character. The thermometer rapidly falling & the wind being keen & cutting. Lat. S. Long E. Birds began to be numerous especially albatross. *Puffinus* *Bonapartei* common. Several other Petrels. The small Albatross has not been seen S of the Cape - Our chief amusement consisted in catching with a hook & line the large Albatross. They look the bait greedily & are almost always brought up by the hook sticking into the upper mandible. Cape Pigeons are caught in the same manner, when steeped in salt water both these birds if cooked without washing the Cape Pigeon tastes exactly like a fresh herring being tender & not rank though abundant with fishy. The swell generally prevented our using the net overboard, today however after a short fishing of 1/2 an hour at 3 PM there were



Islands of Maine. The center being N. W. of Long.

several shrimps (n. 283) - (187) very numerous - 189 scarce - Corinaria 172 scarce. - A Spirula dead though the empty shell looked fresh, covered with young barnacles - Idotea 59 very small specimens scarce - & a new species of Algacee (186, differing from the large one in the shape of the shell.

18th Had the towing out at 2 P.M. & took two shrimps (n. 182) - & one (n. 187) also a small barnacle swimming free. Young of the Lepas brachyptera swim very freely & I was once puzzled for a long time with a very small one which I took for a small Entomost. crust. Since entering the cold latitudes none of these latter have been seen nor have I observed any other animals take their place.

21st Sailed to the southern end of Marion Island Lat S. Long. When too near to land. The Island seemed to be very high in the centre with ridges of mountains coming down to the sea of a deep black & some of a red color. In other places long flat terraces with bluff faces extended to the foot of the hills on which were one or two red conical hills. The slopes & flats were covered with abundance of greenish brown grass, large stones & I thought some very small bushes. Clouds covered the summits of the hills on which since snow was lying. Seals & penguins were seen for the first time the latter swimming around the ship while their companions had formed a large colony on a sloping part of the beach & there being many hundred they at a distance looked like a regiment of soldiers in white trousers. Above them a few albatrosses were scattered. At night we dropped in 96 fathoms water between Marion & Prince Edwards Islands no seaweed dirt or sand were brought up, but the dredge was filled with a white coral & a fragment of a grass which is numerous in the animals, far more than the coral of the climate. South aspect of the Island covered with snow. The produce of the dredge was - Prothoea 2 sp. - Spirula 2 sp. - Striatula, 3 sp. - Pteropoda, 6 sp. - Pholus, Pecten, & several Forficulata all small - Lepas brachyptera, a Taraxacum animal of which two specimens were found (n. 190) - Holothuria (194 & 195) - Meris 191, - (192) Amelina, - & an empty tube Pirgularia 3 sp. - Corallina 4 - Flustra 1 sp. - Sponges (some drawn) altogether 37 animals taken in one short dredge of a few minutes observation, most of them abundant & a few chiefly the shells were only common ship bucket amongst which there were no stone dirt or sand it almost appears that the bottom of the ocean is here quite covered with coral, though small & delicate, its color was white.

28. It was Capt. Poppe's intention to have landed to day but during the night we had been blown so far to leeward of the Islands that it would have taken us too long to have worked up. so we proceeded towards the Crozets though I felt much annoyed the compulsion of our sails on a wind. His excessive affections seemed to alleviate my disappoinment. -

Instead of sighting the Crozets to day in which latitude according to the maps we now were, we were lying to in a heavy gale of wind the weather being so thick that we could not see any thing of a mile from the ship. - The sea birds alone were in their element.

26. Early this morning Ray Island the western most of the Crozets was seen Lat 5. Long 2. far to the East of their situation according to the maps. - At 11 AM we were off Grasshopper Island, a huge rugged mountain in shape with precipitous cliffs bounding it. Its general appearance was volcanic but the distance was too great to make any thing out satisfactorily. -

29. Heading up for Popojan Island. - A large mass of the *Trachypoda* brought on board produced, ~~the~~^{the} *Trachypoda* of seawater from its roots. A bright yellow bivalve was very abundant on the ponds which in its turn produced a *Flustra* & a small channelled *Leptode* which always was found close to the hinge. - A few young & old Barnacles - A very remarkable animal (or) was very common & on one of the seaweeds a curious jointed coral? (see)

I took this opportunity of examining with a high power the sections of the stem leaves & bladder of this seaweed. The *Trachypoda* *pyriformis*. In the leaves & stems there is a distinct central axis of cellular tissue as much condensed as the cortical, & a cylindrical surrounding this axis of very loose cells. In the very old leaves the transverse section presents the appearance of thin parallel plates & condensed cells united by transverse bars of loose cells. The general appearance of such ponds is that they are in a state of fractification which I have not yet discovered. The granites of the bladders are formed of very loose cellular tissue particularly the central part where the cells are very large. The cells all through the plant are often supplied with one or more greenish granules irregularly disposed.

At about 11 AM we hove to in Bay, Popojan Island, were immediately visited by a party of natives who have taken up their residence on this desolate spot, & for whom we had some provisions in the shape of bags of rice Coffee tea &c. nothing could be so interesting than their appearance, penguin skin boots with the feathers turned inwards was the only peculiarity of their costume. They were apparently very comfortable so far as food is concerned but nothing would warrant their state of dirt & filth, so dirty are



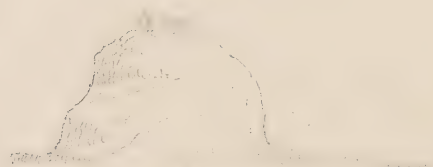
Macapula Island
Congo



17.2 21
Section of Hinge, Island.
England



17.2



Wright's Cap.

that they actually sit on board, the lead man like some African prince was preeminently filthy & withal a most independent gentleman. About the natural productions of the island I could glean no further information than that there were no biped animals but abundance of *Peripatus albertus*, sea elephants, seals, & dentils of plants only a long coarse grass now going out of flower & a kind of snowy grass. The land was high here & then covered with green patches, the rocks black & red evidently volcanic, some snow was lying here & there. The coast was generally rocky & bluff. Abundant the island in places many little cactaceae with green smoky margins old trees on the side of a hill. From here Easter Island, the Eastern high but except the top of the highest part, was hidden from us by a remarkable bank of dense haze of a white color extending from the sea upwards & covering the top of the mountain perfectly clear & distinct of a black color partly veined with patches of snow & the light shadows cast by the sun striking on it. This bank of haze is Bay Island. There is a party of sealers on it anchored in 85 Fathoms between Peppin & Easter Island, the lead brought up the same level as that so common off the main island.

- 6th At 1 PM made Whigs cap. very thick weather common & we were obliged to keep off the island of Kerguelen land during the night.
- 7th Found ourselves about 13 miles to leeward of Christmas Harbour & had to beat up.
- 8th A strong beat up all yesterday & to day found ourselves at night fast within 2 miles of the entrance of the harbour. Wind on to blow.
- 9th Here to a heavy gale of wind, drifting to the N.E. of the island.
- 10th Drifted far to leeward yesterday, we have again to beat up for Christmas Harbour.
- 12th 5 PM anchored in the mouth of Xmas Harbour. Weather bright & clear very favorable. Kerguelen Land from a distance appears formed of successive parallel ridges of rock on which there is a coarse scabrous quantity of vegetation. The snow lying on the steps only of the hills makes the land look striped. The points of the Bay are generally flat ledges & rock with precipitous sides & bluff terminations towards the sea. The broken rock is only then but perforated in an extraordinary manner.
- 13th This morning the Tovar was discovered beating up the harbor having a more favorable wind than we had she soon beat past us & anchored at the head of the Bay. She had parted company from us off False Bay & had sailed only the small islands to the E. of Kerguelen's land.

The weather not permitting us either to land or pick up the harbor we remained at anchor - The shore had to me a most inviting appearance the broad band of brown & green being sure indications of the presence of abundance of vegetation. Nor could any thing the ingenious Mr Anderson i looks only of large ferns made me of the contrary - Bright green tufts were scattered every where upon the slopes down to the water edge while the flat ledges were covered with grass. Surely I thought this cannot be such a kind of Desolation as Cook has painted it containing only 10 species of plants.

- 15th Employed working up the harbor which we accomplished by 12 o'clock when the ship was finally moored - The harbor being very narrow with high hills on each side those to the S. very precipitous with a narrow beach covered with large stones & brown vegetation. Cook's view of the harbor is tolerably accurate. The Bay is so full of the Fraxinus gigantea fronds (?) that it is difficult to push the boat through it. The leaves do not lie along the water but are steeply bent from the axis in the shape of blades of the stem. The roots are not large in circumference as the size of the plant is rather the length of the stem. They however are even here abundant in red blooded worms, porogonura ? etc. other ferns also attach themselves to the roots, but few shells or corals. At 1 P.M. with Mr Anderson I landed on a black rock to the right of the harbor & walking round to the head of it came to the beach of black sand described by Cook. where there were a few Penguins, short bodied creatures with black backs & white breasts like pin-pins. Their fish-like hanging down like swords from their sides, they were easily caught being naturally slow in their motions when on land so rolling like a young child rather than running. When frightened they make for the water running down & suddenly diving forward into the first surf. The noise they make is like a whistle but more prolonged note. On being caught by the leg they attempt to bite but their beaks being too short reach the hand holding the foot they snap at their own bodies a little before the wing. When they do succeed the wound is not very severe their beak being soft & their weight to the feather round the neck is body hard & with little plume on them. The common species here belong to the genus Captens dyptis. On first landing I was surprised to find three species of plants in great abundance. A Cenia or more out pinnated silvery leaves like those of a carrot. It was in flower & covered the ground with a soft green carpeting wherever the beach was steep & rocky they are covered with immense tufts of Anderson's Saxifraga umbellifera to which Lycopodium Polak I think also belongs. A small Ranunculus ? was very common in pools of water with a Portulacaceae plant like Portulaca fruticosa.





But what pleased me more than any other plant was one that Mr. Brown has hitherto only directed my attention to it is the Cabbage of Cook's Cove & a very remarkable Cruciferous plant without any disengagement between the valves. It was not in flower but in a fine state of fruit. It is very common by the sides of rivulets especially beneath little banks. Its thick root projecting horizontally sometimes 2 or 3 ft long & 1/2 inch in diameter & bearing at its extremity a tuft of leaves like the common Cabbage from the side of which a tall leafy spike is thrown out bearing numerous short green siliques with scaphoid valves. Some specimens are rather hairy others not so. The root tastes like horse radish but much milder. The hearts like garden mustard in taste but of rather a scathing consistence very good however. The leaves when boiled taste like Cabbage one of the consistence of spinach & have a sharp & peculiar moderately bitter taste which some of the flattest or rather heart shaped the large incumbent radicle causing a notch with the contiguous cotyledons. The perisperm is light yellow & of a scathing consistence. They are very dry with little of the acid cruciferous oil. The head of 2 Mosses grew up into a large flat valley. The slopes from the sea gradual & very marshy the soil being full of holes & partly covered with mosses & the grass (see p. 1) & sundry cross plants, here there varied with little flats or banks covered with the Lemna or spongy holes covered with permanence (see p. 1) & the Kanaw called. The streams run through rocky beds of volcanic rocks chiefly trachyte filled with oblong cavities & foliated or radiated crystals of minerals peculiar to this formation. Proceeding up the valley we arrived at a small lake about 100 ft above the level of the sea & 1/2 mile distant from the sea, it is surrounded with rocks covered with mosses & most beautiful Lichens. I never saw even in the Highlands of Scotland rocks more elegantly marked by nature's hand than these which else would be hideous masses of volcanic stones the colors though sometimes bright were beautifully harmonized for during the most pleasant part of the day my only regret was the difficulty of procuring characteristic specimens. My delight was great here in procuring a species of Amoeba growing under a superficial - small tufts on the stones which with the Cape Amoeba & a L. len. in herb hook. will make 7 known species of this interesting genus. In the waters of the lake there grew a Conifer of a green color & another blood red - also a small Alga & a Chara they were not however abundant. The general appearance of this lake & the little lake on Green heavies to my mind. A few ducks were seen but no land birds. I was much surprised to find the common East coast seal & several small goats were not uncommon.

May

Kerguelon's Land.

The flats here were very barren being covered with stones tufts of moss
 a few grasses that grow in wet places. One very elegant species with a
 large effuse panicle of flowers was scarce & almost out of flower.
 Continuing our course along the valley we came to another very small
 small marshy lake on which were some wild geese & beyond this a
 steep precipice overlooked the sea in a bay at the N. End of the island
 the cliffs which surrounded the bay were perhaps 200 ft high & formed
 the bay with a nearly insurmountable wall of volcanic rocks against
 which the surf beat with terrific violence. I descended to the sea
 by a narrow waterfall with great difficulty the same plants grew here
 as on the opposite side & several new species. About 1/2 way down
 the cliff was intersected by a horizontal bed of soft grey clay stone which
 split into rhomboidal fragments it was soft & could be cut with
 the knife or scratched with the nail. Some red rock like brick also
 occurred with it. The rocks at the margin of the sea were covered densely
 with a green *Conferua* & the holes filled with salt water afforded me some
 algae but none different from those of Christmas harbor. I was much
 struck with the tameness of a beautiful white bird something like
 a pigeon with black legs not webbed, black & eyes, it ran with
 great agility among the rocks & came close to examination once. Its
 plumage is of a spotted white with a slight pink tinge on the primaries
 of the wings. The bill has a sheath common to the two nostrils. In the
 Eastward the cliffs were of immense height & some huge sea birds
 were soaring like Eagles round the top of it. - On ascending & returning to
 the ships I passed under some long low cliffs of trap rock to the N.E. of the valley
 where I observed a number of apparently of the scudic family, probably *Caudofo-*
neate & *Hydrobia* such as far as I could judge, radiated scudic, *Planorbis*
lunaticus & *Gemma* were among them. On the banks of the first lake
 also were some fragments of a white milky looking mineral of a light
 tawny & generally uncrystallized. On returning on board I found that
 the Officer had been once very short animals which he had brought together &
 when on went like sheep all waters follow, as food after being
 skinned & washed they were at first very much reticulated but on
 after some days found a fresh flavor. Then I even prepared salt
 pork to them fresh meat. The seamen being however less delicate
 On arriving on board I found that I had ascertained the position of
 at least 30 sp. of plants in one day within 3 miles of the harbor
 this proving that Dr. Anderson was either not so serious or not so



Yesterday - This morning I set out to visit the hills to the S. side of the harbor
 & the blue hills which bear so conspicuous a place in Cook's view. The
 ascent was by a green slope on which I found a plant which I took to be
 of Senecio it grew in wet places altogether like our Conium & the root
 slightly acrid taste. Also the Ranunculus in fruit. The
 most different plant in flower several new Cryptogam plants.
 The ascent was by successive flats & terraces of cliffs of green stone or sand-
 stone rocks with the vestige of columns or their structure. Primula
 the huge black cliff or rock that surmounts the hill the surface consists
 of masses of Crystalline or conglomerate formed of a base of blackish green stone
 containing pebbles of various sizes. It was very hard. The black rock
 was formed of the same with veins of a more recent lava running
 through it perpendicularly upwards - at its base where it considered
 such things I was fortunate enough to discover a vast quantity of fossil
 wood imbedded in the rock so natural was it & like wood in a recent state
 that Mr. Cornish who first picked some up took it for wood left by the
 Indians or perhaps Capt. Cook himself. Turf was taken to the right and
 a. con. on the top of the hill among a good deal of ice & snow. The
Cabbage Ranunculus & sp. were common at this elevation
 in it but much stunted in size. The Andromeda & several other species
 were beautiful. The vegetation was very thick with snow thorns so
 that no grass was obtained not even for a few yards before us. The top
 of the hill was flat & a curious regular wall of trap rock crested the top
 of it - this wall was regular & straight broken here & there by a height of
 from 2 to 4 feet it had evidently been left standing by the disintegration
 of the surrounding rocks. On it & on other flat topped stones there grew
 a magnificent Lichen belonging to the genus Cladonia with branches
 sulphur yellow porous stems & large pulsatate yet black apothecia
 what nourishment so large a plant could derive from the hard dry rocks on
 which it grew luxuriantly I was at a loss to conceive. Other Lichens were
 very common covering the stones with their painted ponds & appearing as
 integral parts of the rock on which they grew. In some cases nothing but breaking
 the stone could satisfy the mind that it was not the colors did not arise from
 their mineral composition. In descending I took Mr. Cornish to the Fossil
 bed & examined it more fully. The rock underlying it was composed of a trap
 conglomerate of great hardness. The trunks which were very numerous were
 covered by a layer of shale which protected them probably from being destroyed
 by the Pollux stream. Some of them had round the appearance of
 recent wood the bark & concentric layers being most evident sometimes
 amounting to more than 100. knots & the holes were branches had been

broken off even also common. In some specimens the extreme part of the wood was converted into a very hard black shining crystalline mineral with a foliated structure & striated appearance. Some cliffs or cliffs or others contained small cinnamon colored crystals of a transparent mineral. The most beautiful specimens were of a light grey color with darker grainings & looked like some silicified specimens I have seen from Lough Neagh in Ireland. The trunks lay compactly packed together in a bed of from one to 3 feet in thickness some of them were many feet in length. A recent vein of lava flowing intersected the whole one part also passed through the fossil bed when the wood was invariably turned into a mineral resembling coal which does not burn & is perhaps the Sordawallite Thomson p. 380...

I have hitherto seen but two species of insects on the island - one a fly of Cuscutea not so common among the Umbellif. plants & the other a pair of moths of the Phalaena order near Hypermaria both sexes of about the wings. They vary in size from $\frac{1}{4}$ - 1 inch & are covered with short soft hair of a mouse grey color. The latter are scarce. Today I had added at least 10 of Protophysa & Lichen to my collection.

18th Monday: Landed abreast the ship on the S. side of the harbor under the cliffs close to the beach intending to follow the line of coast until reaching Arch Point which is separated from the narrow part of Christmas harbor by a shallow bay. The cliffs were very moist & produced many mosses, among them an Aquatic one like Hedwigia aquatica with an abundant mass of capsules among the lower branches. The space between the beach & cliff was very narrow covered with immense cushions of the Umbellif. The mossy spots were full of the Ranunculus &c & the flat margins of the rivulets with several grasses the Agnes & Cabbage. Very few seaweeds grew on the beach the most were two stones. Birds were very numerous especially the Cape pigeon, a small leaden grey Tern, two large Petrels, a black backed gull & the curious white bird mentioned before, which is called the Shearwater by the Sailors. On turning into the bay the cliffs became very much higher & the sloping beach was covered with huge fragments which rendered walking very laborious. Two birds here attracted my attention the Shearwater & a new Penguin. The former exist here in myriads they are so tame that they allow you to come quite close to them, their note is a caw like the jacksnaws seldom repeated but when commencing to fly. Except when much frightened they seldom take the wing, but move with agility among the rocks like Plovering men shuffling themselves by the side of the rocks which is provided with two callons of feathers admirably adapted for this purpose. From occasion I thought to pick up a stone on a





stone & commenced whistling a tune when on turning my head I found I had unwittingly been performing as before. Just for a few minutes 20 or 30 of these beautiful birds had gathered about me & were gradually approaching in a group. Their heads & narrow by watching my motions. Among them were some Penguins peering over the rocks of a small size with the scarlet eyes red short beaks & several long ^{feather} ^{feathers} on each side of the head pointed backwards from the eyes. They were so tame that they allowed me to take them by the beaks. The spaces between the stones were covered with feathers - amazing quantities some below either to the young birds of the sheath like & Penguin or are scattered by their moult, some I may have come from dead birds. I also found there were many skeletons especially Penguins which are I suspect destroyed by a very large ^{fish} ^{fish} of which I saw several specimens whose bill is like that of a hawk & its webbed feet terminated in black the skin on the back of a common one was full of such matter & the white birds are voracious eating fish seaweed & insects. In that manner used to help itself from their shores eating what bores & many Samoyeds & Greenlanders rendered it a general favorite but its spotted plumage even turned grey & then black. Very beautiful minerals were exposed by the crumbling of the cliffs, which had open large cavities filled with beautiful crystals of Calcite & also a very fine yellow color & common colored mass of crystals which were quite new to me. After proceeding about two miles I was brought up by the cliffs descending perpendicularly into the sea. Their height might be about 200-300 ft. all formed of black basaltic rocks from whose summits enormous waves along the descent, there scarcely left the summit before they were blown into columns of spray by the violent eddies of wind then effect of leaving the shore behind such huge clouds of spray was such striking every drop glimmered like a diamond. In the cavities of the rocks several small & curious lichens grew with some snappers & gelatinous Tremella which consisted of small botryoidal greenish yellow patches.

19th Monday. To day I ascended the hills that lay to the S. of the May & from the top perceived an inlet which it had been reported separated the part of K. G. land on even on from the mainland. I immediately started over towards it & descending its precipitous sides walked along till I found myself shut into the head of a narrow harbor much deeper & as narrow as a mas harbor. The mountains rose very steep & precipitous from the water edge to the height of perhaps 1500 feet

with long narrow ledges of porphyry formed of black trap rocks which
produce great quantities of the chrys. talized minerals so common
near the ships. From the steepness of the cliffs around the bay I
found the vegetation very much retarded & gathered several plants
in flower which I had not seen in that state before. no new
plants however were seen. There were very numerous & common
of Shags a fine bird with white breast blue back & a yellow eye at
the foot of the hill, a beautiful black backed gull which lays
limpet shells in great quantities to several apparently favorite
spots near a stream at the height of 300 ft above the sea. ^{little} The sea Thrush,

The little tern & bridgman, the large petrel & a ^{dark} dusky colored
one with a white bar on the wing were very common. The
spot was wild & desolate in the extreme. The mountains which
shut out any view on every side were half covered with snow
the cataraacts were frozen & not a ripple agitated the water of
the bay which reflected the black cliffs like a mirror. Nothing
but the scream of a gull broke the silence & it added gloom to the
scene. From the head of the harbor I must return as I came

or ascend immediately showing this course I found there were
3 ridges of hills intervening between me & Anas Harbor. They
were all covered with snow & formed of parallel ridges of trap
rocks those near the top of all the hills I have seen & those
only at that elevation are distinctly columnar. The columns are
formed of blue trap rock are 6 angled pretty regular some very
much so & do not produce so many minerals as the coarser
grained rocks below. Overhanging snags of this columnar rock
sometimes left caves beneath it where drops thus appeared
topulated with hexagons of from 2-3 ft in circumference - snags
generally frequented these spots but were barren. On the summit
of the hills many snow cryptogamic plants were seen especially
fine tufts of a Scirpus & a beautiful Andromeda which
formed rich brown pulvinate snags. Except a small Geranium
& Thalictrum I no animal life is found anywhere but near
the sea coast, the birds seldom ascending the hills.

Sea bears are not uncommon at the head of Christmas harbor &
Foul Haven, they are so tame that they are easily approached & kept
by a blow on the nose with a club or boats stroke. On being attacked
they open their mouths & make a clucking spring at the assailant which
is easily avoided perhaps no animal of its size is so helpless. Their average
size is 2-10 feet, they produce excellent oil for burning & small seals
taken in foul haven yield gallons. The fur is fine short & soft of a
uniform brown color with a shade of yellow. I have never seen the
fur seal or elephant seal here though they were abundant.





The northern shore of Christmas harbor is overlooked by a curious hill with a conical summit which forms Cape Francis. The lower terraces of which it is composed consist of a hard stratified Basalt, the upper of the same rock but presenting a columnar structure, the cone is also formed of hexagonal pillars but they are broken up into angular fragments or in some places bent & so tilted up that, that the bases of the prisms are exposed forming small lapidated walls, the summit presents the appearance of a crater bounded by an uneven ridge of loose stones with a small shallow pool in the centre, the diameter of the summit is about 100 ft from E. to W. & 50 from N. to S. The flanks of the cone are so covered with debris that I could trace no lava currents nor did I see any fragments of a different rock round the crater than those which are found at the breast columnar ridge. There is one peculiarity in the columns forming the cone, viz that they contain large nodules of a beautiful mineral of great specific gravity. The same plants Leucos &c are found on them in height as on similar ridges to the S. To the N.W. a stupendous precipice forms the side of this hill, it is marked by parallel lines indicating the successive streams of lava the upper of them are as on the S. side of the hill columnar, here & there red streaks crop the cliffs.

20th Visited the cliffs to the S. of the harbor towards Bush pt. in search of minerals, with Mr Smith. The lavas here are full of druse & crystals containing many luminous minerals some of great beauty. In the soft ground under the overhanging cliffs a ridged white substance is found filling up the interstices of the debris & covered like an underground fungus by a layer of soft earth. The roofs of these shallow caves are covered also with a white snow taccan which often forms small stalactites or botryoidal masses. The cliffs themselves contain strata of labradorite (m). Quartz (m) a hard red substance (m) & though rarely large masses of a dark colored rock with an indigo blue cast & conchoidal fracture (m). Near the point where the intercourses between Bush pt & the head of James harbor Mr Smith found a mass of such & where druse cavities are beautiful silky light spicula like earth kept on the seeds of an Asclepias but infinitely more delicate. Round the point he found large beds of coal close under the cliff (m) lying under a clay shale, the average thickness of the bed is 2 ft. The coal is of a fine clear kind & does not soil the hand its fracture is conchoidal & its color perfectly black, but the brilliant green fine, burns with a clear gaseous flame when thrown into a clear fire.

Mr. Behr's: myself having, on a late excursion killed 3 sea bears
 Captain Peap dispatched a cutter for their carcasses which lay at the head
 of Fox Haven. We started at 8 AM & ran down Christmas harbor
 with a fine breeze then running along with point we stretched up to
 the head of the harbor. The birds especially a large gull I captured.
 As I had already commenced the work of destruction picking out
 the eyes & entrails. Mr. Dagmar had accompanied us to record
 & survey the harbor but a violent snow storm having come on we
 were glad to make off with our booty. About 1/2 way down the bay
 we discovered 3 more sea bears which we immediately attracted &
 added to our previous stock, all were males. Thus loaded with 6
 seals & 10 men we pulled along until we could take advantage
 of a slant of wind, which was blowing so strong that a sudden
 squall coming over the cliffs near that point carried away our
 mast & sail having taken it in we pulled on with boars.

The sea broke so violently at the 6 point that we had to keep out
 of from the wind now being dead out of Fox harbor we had some
 difficulty in making a slant across the harbor mouth which
 brought us under the lee of the rocks on the Cape Francois side where
 we pulled up to the "Iceberg" thoroughly exhausted, cold, wet & fatigued.

From the bad weather & the shortness of the days my other excursions
 in the neighborhood were generally limited, consisting of short walks
 about the hills or in boating about the mouth of the harbor. In one of
 the latter I visited Arch. Pt. & walked up the harbor from it to a cavern
 by the sea shore running in about 50 ft. under the cliff near
 it was a bed of soft coal covered with a good deal of shale, its average
 height (of the cavity) was about 10 ft. The bottom made of a deep layer
 of decomposed whitish rock, where earth & birds along of which it
 emitted a most nauseous smell a section of the earth showed layers
 imperfect of Penguin's bones & innumerable particles of broken eggs.

The day Mr. Mc Cormick returned from a surveying excursion to
 White Bay & Cumberland and harbor. He brought us new animals or
 birds, quantities of coal & spirit wood & numerous specimens of Quartz
 & very large crystals & many geological specimens. I plants not
 found in the neighborhood of Christmas harbor. An *Asplenium*
 (n) a new grass (n) & a magnificent *Lycopodium* (n).

Mr. Robertson returned from a similar excursion on the same day &
 in addition to the above gave me a little *Catarrhus* (n). which
 with what I have gathered here makes 10 the number of flowering
 plants hitherto discovered on the Island. Of these 16 are abundant
 when the ships are gathered in the winter season. The worst weather
 we have endured for landing sometimes for several days -
 continuation during which no boat could gain the shore. Snow seldom
 lasts very long & requires very few of the plants. The thermometer never
 fell below 27 F. when the frost did not affect vegetation.



Sept. 1. Branic Bay
 2. Branic Bay
 Sept. 3. Branic Bay
 4. Branic Bay
 5. Branic Bay
 6. Branic Bay
 7. Branic Bay

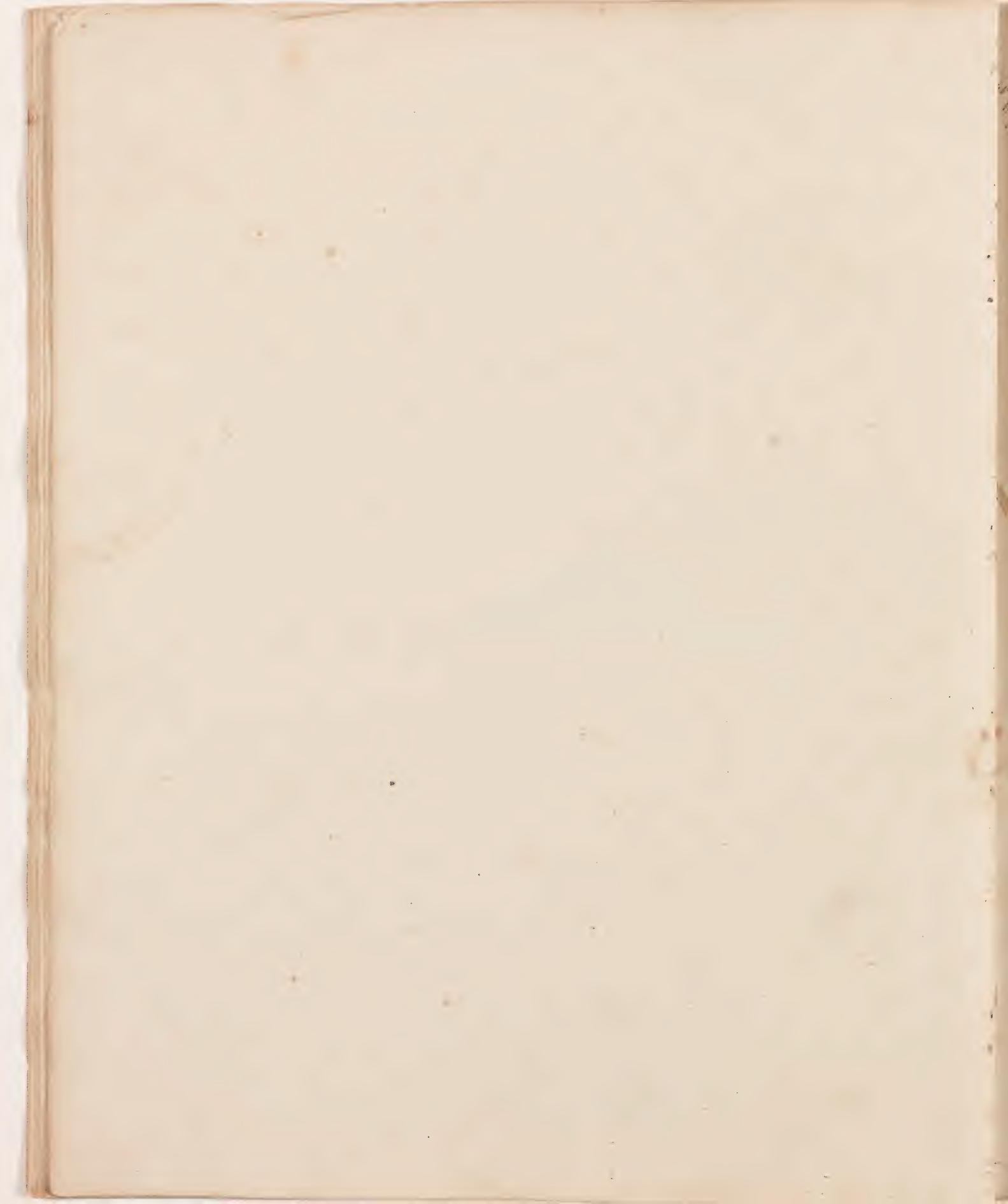
Monday
 August 22. Branic Bay

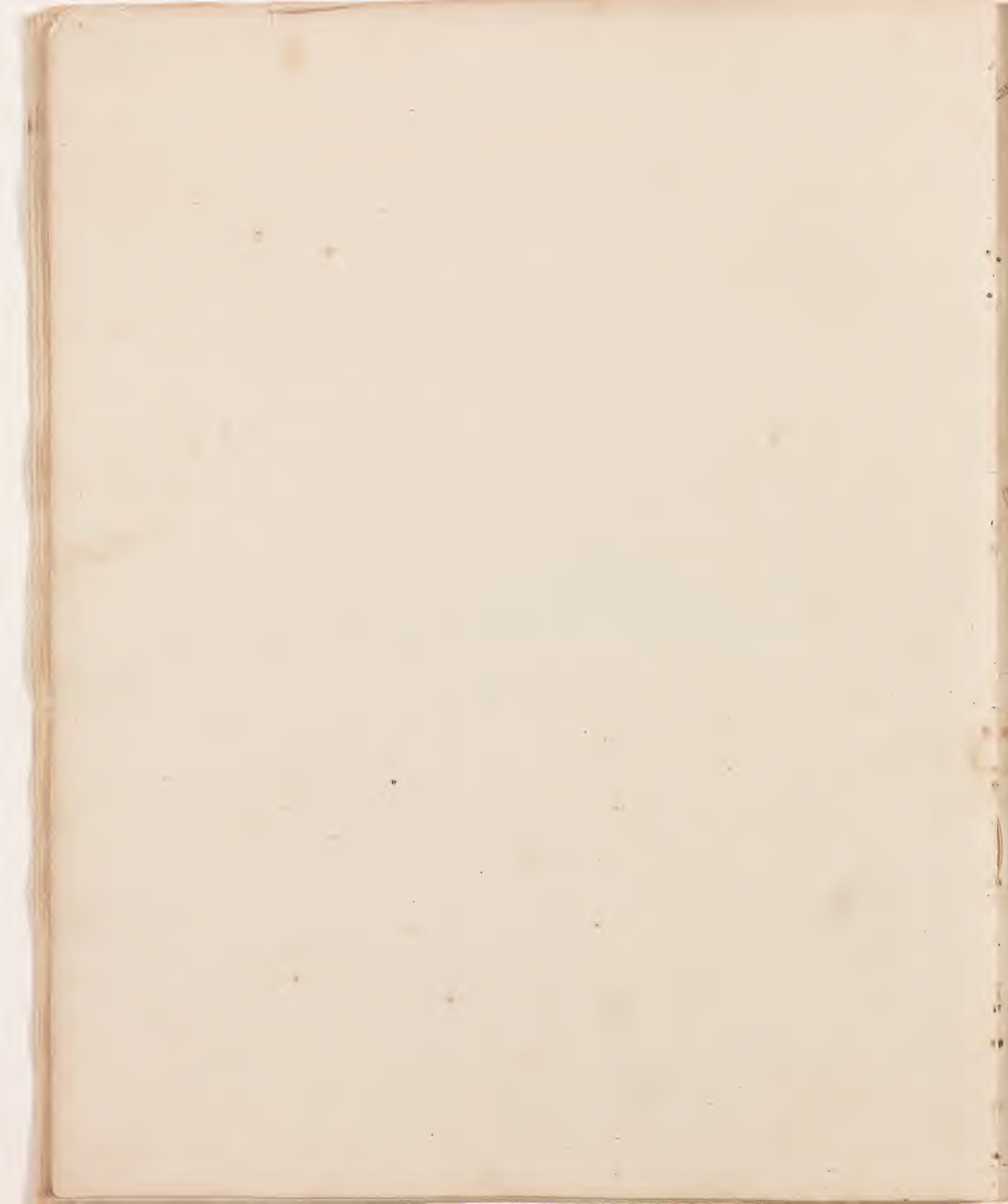
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 Day
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The excursion ended 3 the beach
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 I ran down Christmas harbor
 and Point we stretched up to
 finally a large gull. L. catwalk:
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 by winter consisting of short walks
 the mouth of the harbor. In one of
 up the harbor from it to a curious
 about 50 ft. under the cliff was
 a good deal of shale with a



Port Hope
 Monday walked about
 from the hill to the coast.
 Tuesday walked to the harbor
 & back of the harbor
 to the ship
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday
 Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday





By the limited extent of country over which I had the opportunity of collecting & the moderate size of the hills afford but little variety in the distribution of plants. Of the *Phacelium* genus none are found at any elevation which do not exist more luxuriantly in the lower grounds. The summit of the highest hills near Christmas harbor do not exceed 1500 ft. The Cabbage (*n*) is the most universally distributed plant growing at the summits of the highest hills & on the most exposed places it is generally there stunted & more hairy than usual bringing its seeds however to the most perfect maturity. The little *Poa* (*n*) attains a height of 1100 ^{to} 1200 ft growing in the clefts of the rocks. Below this elevation all are confined & appear in the following series from 500 - 1000

- 1-1500 the Cabbage (*n*)
- 1-1200 *Poa* (*n*)
- 1-900 *Portulacca* (*n*)
- 1-700 *Polax* (*n*)
- 1-500 *Ranunculus* (*n*)
- 1-400 *Haloragace* (*n*)
- 1-400 *Cerina* (*n*)
- 1-200 *Graminea* (*n*)
- 1-200 *Acana*.
- 1-50 unknown (*n*)
- 1-200 *Graminea* (*n*)

The following are only found at particular elevations

- 300-1200 *Poa* (*n*)
- 300-700 *Agrostis* (*n*)
- 300-700 *Caryophyllace* (*n*)
- 300-500 *Parnassia* (*n*)
- 300 *Scrophulariace* ? (*n*)
- 300 *Juncus* (*n*)

All those which form a series commencing from high water mark are often found exposed to the spray of the sea which does not seem to affect them the Cabbage & *Graminea* & unknown are especially luxuriant just above high water mark.

If these the two last are found in one spot only

I have found only one truly aquatic plant which like the *Sagittaria* matures its fruit some inches beneath the surface of the water it is the (*n*) & grows only in the small lake near the N.W. Bay. It is a muddy bottom each unripe ovary contains a bubble of air generated by itself. The *Juncus* grows on the margin of this lake only as far as I have seen but it is so obscure a plant that it may probably be overlooked elsewhere. The *Caryophyllace* & *Poa* are the only two except the *Parnassia* which are never found in wet places but invariably grow on the gravelly debris of the volcanic rocks the others are proper & in wet & fertile soil often inundated such as the Alpine sources of the fresh water.

The *Asplenium* brought from the South by our Mr. Cornish grows in places with the fine *Lycopodium* (n) The smaller *Lycopodium* brought by Mr. Robertson & the *Galium* grows in shady spots & moist. The other *Cryptogamia* are distributed like those of the *Asplenium* peaks of Europe the fine tufted *Dicranum* mosses affecting the high tops the larger *Asplenium* & *Junagerrmannia* the low grounds as in Britain the larger *Senecio* grows high up at about 1600 ft. of elevation the smaller like *Sc. rupestris* grows on the rocks low down. Of *Aquatic* mosses the *Hypnum* (n) grows in the waters of the lake the (n) grows by the side of waterfalls the *primula* ? (n) is found on rocks only near the sea. The generality of the lichens are confined to the rocks which they cover with a beautiful coating of bright colors. A *Peltidea* (n) is common among the mosses the fine *Senecio* (n) is found from an elevation of 600 ft. to the summit of the mountains invariably growing upon the upper surface of the rocks the *Atropa* being the only nutriment it can obtain in such situations. Several *Conferae* are found in the streams & in the still waters of the lake where a *Chara* is abundant which does not exude so strong a smell as many of that genus do. The damp under faces of the cliffs produce several *Trimeles*. The only fungus not infrequently on the black wet earth near the sea to 200 ft. of elevation. Sea weeds cover the bottom of the bay & the rocks near *Crangon* *gigas* *papifera* (*Fucus giganteus* Banks) & the *Laminaria* *radiata* ? The former of these forms a band about 20 - 30 yds broad or belt round the margins of all the bays in the deep water. a few yds from the shore it grows so densely that a boat can hardly pull through it in some places forming a perfect submarine forest for fish & *Crustacea*. It also sometimes grows in the deep water in the centre of the bay attaining an immense length. A small white *Serpula* generally inhabits its ponds & its roots which sometimes form a branching tuft a yard in diameter are full of *Barnacles* & *Crustacea*. The *Laminaria* grows on rocks immediately below high water. The root consists of a smooth yellow semiorbicular mass 3-6 inches in diameter giving off one or more slightly compressed stems 1-3 ft long which expand into a lengthened obovate lamina of a brown olive green color which is divided into numerous veins of a thick leathery coriaceous strong substance it grows on rocks much exposed to the violence of the tempest I think I may



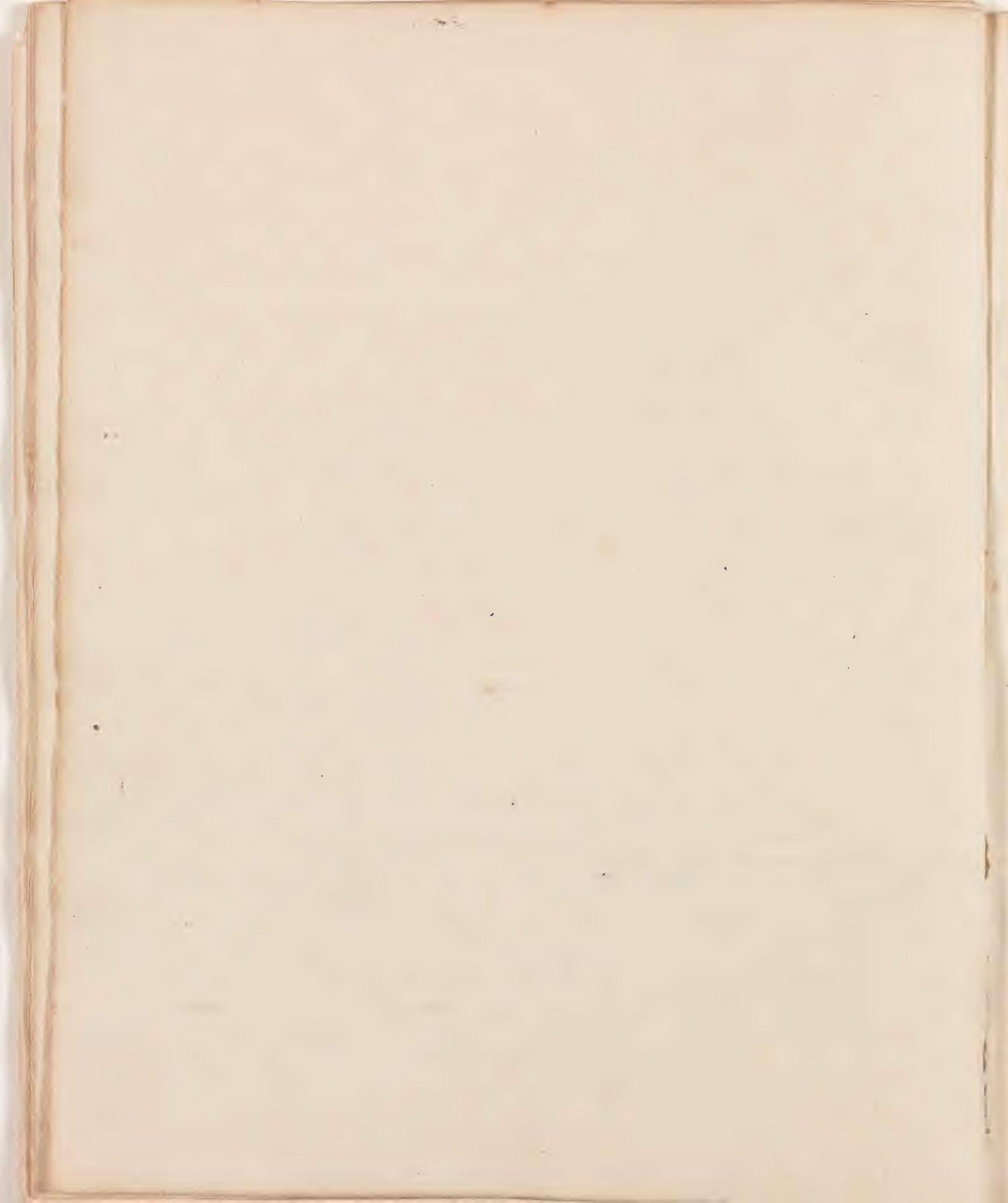


safely affirm that no other species in the vegetable kingdom has so secure a footing as this sea weed has on the bare rock. I have often sat upon the cliffs overhanging the sea at the Riv. Bay during a gale of wind & watched the surf break with terrific violence on the rocks which are often themselves detached & alternately brought back a-ward & forward by the swells & reflux with a deafening roar, while the coriaceous ponds of this weed are with impunity washed back & forward their firm attachment defying the power of the sea & the strong ponds partly from their elasticity & pliability & partly from their coriaceous consistence escaping without a rent & growing in safety for many successive years in the most exposed places. The only sea vegetation I can ascribe to them is the shelter ^{it} they afford the species of Patella from the attacks of the gulls which prevent almost during low water & secure as their prey and eggs remain while fast which is exposed the weight of the ponds of the Laminaria hangs down over the dry rocks forms an insurmountable obstacle to the birds.

From the scanty nature of the vegetation of the Island combined with a supposed equable temperature throughout the year, there cannot be much difference in the comparative verdure of the Islands at different seasons nor are the flowers of any of the plants found so conspicuous even as those of the plants of our highest alps, much less can they vie with the Saxifrages, Poppies, Nubusses & other short lived beauties of the Arctic regions. This is doubtless to be accounted for from the sterility of their habitat & perhaps more from the barren nature of the soil & perhaps the almost total destruction of vegetation at successive periods by the violent volcanic action to which the Island has been subjected. Situated far from any land that could radiate to it through the dreary winter part of the heat that large continents absorb during summer, equally far removed from the chance of hyperborean migrating birds that would transport seeds, unable to profit by currents which run out to the Westward towards the Australian coast & which could they bring seeds would cause their death by long immersion & the low temperature of the water, the isolated spot I now look upon cannot be expected to produce much. Further the next nearest current is the Indian Sea one which sweeps to the W. round the Cape of Good Hope & the N.E. wind is a trade confined to about this latitude. In spite of all these opposing causes it may be argued that the Island was once covered with wood thus the numerous beds of coral & fossil trunks incontrovertibly prove how there came here & when it is not my department to solve but as there can be no doubt that it was many ages ago it is not unlikely that it

take place when the Island may have enjoyed a very different geographical position with regard to neighbouring lands than it now does. I am aware that the Island of St. Paul is N. lat. 7 & S. long. has perhaps within a few years undergone a change similar though on a more limited scale to that which killed the vegetation here, for Labillardiere in his account of D'Entrecasteaux's voyage states that on passing to the N. of it he found it in an active state covered with smoke which being carried off to the ships emitted a strong odor of burning wood; that this Island was (perhaps is) covered with wood is very likely being as it does within the influence of the great westerly current which has covered the Cook's Islands with vegetation. While however the nature of the plant of that island is better known it is useless to conjecture.

Perhaps no land could be more favorably situated than Deviation Island for illustrating ^{or substantiating} ideas of vegetation proceeding from one spot. Most Islands are known to possess a vegetation resembling the character of the nearest Continent & entire families. But the vegetation here is quite peculiar to itself but very much what we expect in a land encircled as it is. The lowest orders are the most abundant and their forms are Arctic or alpine. The more imperfect Endogens only are found & a few herbaceous Exogens to most of which an analogy may be found in Arctic vegetation as I shall attempt to show. The remarkable fact is that there should be such an analogy between two such separate parts of the world when it is considered that the vegetation of one is bounded by the other position & limited to two degrees of latitude & one of longitude. Temperature another source of almost all vegetable peculiarities. Here if it has modified or rather diminished the number of species it has so far assimilated them or they have assimilated themselves to its variations & this without any adventitious shelter of shrubs warm valleys or a soil that would be likely to radiate much heat during the winter months. Cook visited this May in December, the height of summer when only 18 plants were collected including Cryptogams of course the most abundant. 5 plants he mentions are in flower. Of these 5 plants I have gathered 3 in flower abundant as the other two, viz the cabbage & Helonagea ?? (the latter of course being just past flower of these 5 - two remained in flower till July 20th & all but the cabbage remained in full seed, further I collected nearly 18 phanerogam plants of which 16 had either flower or fruit in the accompanying order. One Helonagea ?? (or ?) was in a luxuriant state but with no traces of fl. or fruit the other a grass was brought to me from the S. the glumes only remaining on the spike. Of the 18 sp. the following accompanying list will show



few of them had performed the functions for which they were intended before the winter set in. Of the rest our residence of 2½ months proved that they were not only evergreen but were capable of discharging their seeds in the most vigorous weather for we had frequent falls of snow of several days duration & at other times the ground was covered with sheets of ice from frozen rain which after a few hours sunshine nature would appear green again, there being only one plant that suffered from being under the snow for 3 days & that was the *Scilla elaeagnifolia* (n) whose leaves were frost bitten & turned brown while the young fruit was completely destroyed this was however probably its second season of flowering as among the roots numerous ripe brown capsules are very common. In July I found seedling plants of the Cabbage growing in exposed places they had probably planted themselves a few months before when a most remarkable little water plant at the bottom of the fresh water lake in full flower & young fruit growing under a feet of water covered with simshu of ice. This *Potamogeton* is its only flowering season.

Thus a simple inspection of the History of this Island shows good cause to prove how uniform the temperature of low land is surrounded by sea is the state of the herbage at present showing the mildness of the winter & the want of animals proving that there is no general month to call forth vegetation with the sudden energy which they require. Though the abundance of poplar wood proves that the Island was once thickly clothed with vegetation it must not be too hastily concluded that the presence even of a gigantic vegetation was necessarily accompanied with an equal luxuriance in the more lowly herbage. The wood is *Antarctica americana* though composed of immense forests contain a meagre flora & the same may be said of other Islands situated in more favored latitudes.

Even in this remote corner of the globe & scanty though the vegetation be, it has been planted by nature with more than an ordinary interest for the utility of two of its products. The destruction of its former forests has produced abundance of good coal. Cook mentions the remarkable cabbage which to a crew longer salt meat is an invaluable anti-scorbutic & to many a snow agreeable dish unlike other pot herbs its properties after boiling so much of its essential oil as entirely to neutralize or destroy any symptoms of heart burn or flatulency nothing can be more wholesome than it is. The root eats like horse radish & the young vacates like coarse mountain & cress the seeds are the food of the innumerable ducks on the Island. Growing as it does near the sea on a spot upward of 1000 miles from any land where fresh vegetables can be obtained it seems expressly planted by nature for the poor mariner when suffering under his own peculiar malady.

Two grapes each & form most excellent rich & nutritious
food for cattle as we proved by some sheep being let loose on
the Island who soon ran wild & though they were landed hungry
& lean they were fattened & thrived - goats, pigs, rabbits, sheep &
perhaps small cattle would all thrive well on the Island & would
be no ordinary bon to the whalers. The little Nannenculus is the
only dried plant I have found near the beach as I suppose it
must have been this that Cook's party ate for crisp it appeared
to me any thing but wholesome. Among the seaweeds many are
doubtless eatable, on one occasion I found our gunner seated on
a rock with his feet in the surf paying down what he called dulse.
it certainly was eatable raw, I need not add my friend was a
Dutchman. The Lichens are all most too tough to afford any
hopes of supplying the Island with food. Some of the Musci might
be used by the Laplanders as they do their own as swaddling clothes
for their babies.



Aptenodytes demissa



Sea bears the *Otaria ursina* is the only animal that ever is seen on shore, the young dogs are constantly coming up on the beach & barking in the same way few females were seen. *Phoca* etc. whales are very common & they come into the Bay when after gliding & playing about for some time they dive into deep water throw their heads up in the air & disappear. These seals owing to the Nestorists Library were once very abundant here but during our stay we have seen none nor any sea Shepherds.

1. Bird. There are a good many species, all but one sea birds during our stay here. species were collected most of them were very common. 1. *Macropodus vaginalis*? the sheath bill I doubt if this is the same as the New Holland bird, the forehead is not bare the sheath is not loose on the bill nor is the bill so broad & large as that of the figure in Rice's *Colaptes*. It is all over of a pure white the young bird with pink legs & the wings, eye black with a red carunculated eyelid beak black, legs black red. The head is much laterally compressed & the forehead high.

2. The second one is the song there is a small warbler in the situation of a sparrow. It is referred to the *graculus* by twice it comes with great rapidity among the large loose rocks along the shore riding still down the declivity by the wings when the warbler purges against the rock. It is very tame, seldom flies, when it does it invariably utters a double shrill whistle as it rises on the wing, when heard previous it takes to the water but this was seldom. It seems shy. They are so tame that you may approach within a yard of them when they move quietly over the water. Curiosity is a fine emotion and pleasure with them if you sit down they will gather round & examine you very minutely. Plopping.

perch on your foot asking their friends on one side & the most interesting manner. soon then tameness they formed a constant prey to our hunters & sports men. with a gun they are hard to kill flying always with a change of shot quite unceremoniously. Their food is any thing they can get especially dead Caribou. As for the tolerable eating rather tough though & they have a rank flavor & smell when sweetly killed & again evoking before looking when they eat well is fine & another advantage. When captured bread if given the tops of the duck they get very tame eating & stretching literally every thing when put in cages they spend all their strength & energy in incessant attempts to escape & if 2 or more are together they fight like 2 men asks like one answers down they soon get very shy on board. I suspect they build among the rocks.

3. *Aptenodytes minor*. The common Jack of Penguin is one of the most numerous birds here they come up in flocks out of the sea & spend much time on shore doing nothing but standing upright & looking at one another. To catch them you must see between them

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Perquillens Lanius Boninthe (Lanius)

& the sea & then cut off their retreat when they will be subjected to a passage apon the gull with head & wings & then immediately descend when a short chase soon brings you up with them & after a good deal of coaxing & struggling they are soon made prisoners if they do gain the sea they immediately dive under the first surf & disappear at some little distance they are very strong & easily tamed. At first we had about a dozen or so and running wild over the rocks following a leader they cannot climb over any obstacle 2 or 3 inches high so we thought them safe until one day the leader finding the house hole empty immediately made his exit & was followed by the rest each giving a peculiar long croak as he made his escape. Their flesh is black & very rich & was much relished at first for it has good flavor & after a day or two we found it too rich with a disagreeable flavor whence partly from prejudice I believe they were dropped except the shape of soup which is certainly the richest I ever ate much more so than man soup which it much resembles. The penguins are very full of blood hence a few small shot kills them though they will take any number of strokes on the head or elsewhere with impunity. One or two found were full of impregnated ovaria.

3 Diomedea nigripes the handsome King Penguin is not uncommon singly or in pairs amongst the common ones. They are a much more quiet bird sometimes peaching 32 lbs in weight. I have seen so few that I have no remarks to make on their behavior than that they take 1/4 of an hour to kill by jumping on the breast holding the nostrils & that they are the worst bird possible to skin.

4 Diomedea nigripes chrysorrhoa is the smallest & rarest of the penguins it has three or four golden feathers hanging down behind the eyes. I have seen it once among the rocks in the S. of the bay & there sufficiently rare. It has a brilliant red eye. It is so tame that one could be allowed one to take it by the back without the smallest objections the other penguins jump the prey hands to the rocks which this one inhabits. I only found them on our first arrival in July not one was to be seen. Though then some were common enough whence I supposed that they had fallen a victim to a large gull that preys on all it can kill.

5 Larus catarrhactes an immense black colored gull with a black neck & large claws & the tip of his webbed feet is not uncommon. It soars about the tops of the cliffs like an eagle is most voracious when wounded & I believe when true bird of prey & kills the weaker inhabitants of the Bay. It also eats carrion.

5. Larus This is the only other gull found here & is a very beautiful bird the young ones are mottled the old ones have strong black backs & wings. The margins of the latter with the breast & belly are of an iron white, it is gregarious flying in flocks & sometimes in flocks of three upon the rocks, it screams like our black breasted gulls, and on any carrion it can find fishes upon limpets about it picks from the rocks & carries to some height upon the hills where it eats them whole. I have often seen flocks of them in their banqueting over a height of 2 or 300 feet above the sea where they leave what would be beds of fossil shells.

6. Sterna a small grey tern is one of the most abundant birds at the head of the lagoon where it feeds over the water every now & then dipping down for its prey. In the night or morning they assemble among stones on the beach by dozens when any number may be shot for the pot. They are very delicate eating but have rather a bitter taste. The young are mottled the sides slate grey.

7. Sula a large shag or Cormorant is extremely common the mature bird has a white breast & belly with a very tint under the breast the back is of a rich blue black rising with that of the crown the bill is long with a big or yellow caruncle. They sit very tamely on the rocks or fly close about a boat that they may be shot with a pistol or a small staff to be caught on the jet-boom. Their food is fish. The young have grey breasts. They make splendid noise & are themselves good eating.

8. Diomedea During the time we wintered in Christmas Harbour no large albatrosses were seen nor were they observed for some days when approaching the land. The nest of the Diomedea? I found among the rocks above Cape Francis & is the only nest I ever saw on the island it consists of a round cylindrical hollow of earth constructed above & below they were situated, lined with a deep purple at the top.

60 of them & were built on the grassy ledges above the sea. A good deal of straw & stubble were mixed with them or rather plastered up with the clay & lime the same. For a distance they looked like so many Chinese houses.

9. Diomedea fuliginosa This is a dark dusky black bird about the size of a grouse with a long jet black bill black eyes & a white moustache. I found a nest of them with three in it on the sea after some climbing I reached them when by shouting their moustache over their black eyes they appeared to be quivering in the nest.

Procellariid Birds (Continued)

In various manner when it was disturbed the screaming all at once. They are tame insipid creatures hardly making any show of resistance. I have never seen the bird flying about the harbor.

10 Procellaria Capensis the common Cape pigeon which has been our constant companion since leaving the Cape is abundant off the harbor flying about every where, it builds in sheltered ledges of cliffs about 50-100 feet above the level of the sea. it is certainly a tame bird. its note is a short low croak. I found two on a rock but quite inactive.

11. Procellaria ^{gigantea} subulata? a very large bird perhaps the Southern Gannet. more of a dusky brown color. it is very common & I saw feeding on Carrion. till it comes to walk when approached in this state it has to crouch its legs before it can walk to repeat the operation before mounting & a third time to discharge previous to making well off. This is the most disgusting bird I ever saw?

11. Procellaria subulata? A smaller petrel about the size of a Puffin. of a dusky brown color with a white bar across the wings, it is not so common here. Know nothing of its habits &c.

12. Procellaria A very pretty little bird with white breast & belly mottled under the neck. blue black back & head black like I say, sky blue legs about the size of a thrush more stout & thick set than other petrels I have seen. It flies in small flocks about the mouth of the harbor the wings being small & curved it makes very long time up & down of a mile from land the sailors call it the Roseberry tattler. They often fly in loose during night. This was the case on coming from the Croquet when far out at sea. They do the same in harbor & are often picked up alive or dead in the morning. At night they burrow in the ground in large holes they under the beach banks or walking about night they may be constantly heard uttering a chirruping croak under your feet. The young have darker bellies & breasts than the old.

12. Procellaria Of this bird only one was seen found & that was dug out from the holes which the former subsists, it is much of the same form as the former but rather longer of a uniform slate color with a black bar across the tail. Legs black. Perhaps the whole bird

13. Procellaria One of the most extraordinary birds seen it is nocturnal is about the size of a Cape Pigeon or rather larger. Allatropus I think it should be strong on the wings. The head is very the bill. At night they may be seen flying about the south or night saw over the harbor for what food I cannot guess. They build in the

same holes as the two previous birds but always choose a bank with water at the foot of which they seem to gain entrance; after digging away the earth for two or three feet & laying open their hiding places, they are found to consist of a circular vault with a ditch round it which carries the water off & down the passage which is always an inclined plane; they then keep themselves dry in the damp mud they build in, I was generally found together. An Egg was found in one nearly as large as a Gull's egg but broader & proportionally at one end & sharper at the other. These birds are exceedingly voracious & as soon as night falls they rise upon their feet & proceed in a manner very peculiar, like a human being in great distress. I have often heard them close under my feet when returning from my excursions at night & they have wounded so much my curiosity that I have been glad to hasten on to avoid them.

14. A small duck very common on the ridges & very common in about the size & color of our wild duck it afforded excellent food for our guns & our table as many as 4 or 5 brace being often brought in by our sportsmen. To the south they are so common that Dr. Robertson shot often not rising when within 20 yds or even less. It is the only river-duck around which plants the marks of their feet are common in the mud. They are very seldom take the water: are winter residents here.

The other birds but 2 are never found for any distance out of the harbor. The Cape pigeon is our constant companion & so has been the whole bird? & 12 if it be the whole bird we have seen but not been able to catch an egg. The other sea birds viz the Albatross, the gannet, & the small black one have not been seen. The Chay is seen within 50 miles generally around the shore & the Penguins put their heads above water a few miles at sea & instantly swim like loons or divers.

Fish very few, only 3 species have been seen & they are very & very small. One 2 or 3 yds & most delicious eating the other small & picked up on the shore. The Tunny catches fish constantly for long close in around the rocks we catch very few. One of the fish has a curious head shape than all its body together with an enormous mouth & no teeth we call it Tunny & Robertson describes from its likeness to one of Lincoln's character of Thomas's popular piece.

Bergue's Land. Nat. Hist.

Crustacea are not numerous in the Bay but species though some are very curious 2 Paguripoda are found one very large & a small white one on seaweed. A small Squilla is very common & a basket sunk full of Pengius was in a few days brought up full of these shrimp & Pengius bones. A new species of Stomatopoda covered with spines is rare. The Scud Brachyura is very common creeping about the bottom or seaweed.

Shells of these I have only seen 2 kinds the large Patella very common on the rocks & good to eat. A smaller one very delicate & flat about $\frac{3}{4}$ inch deep lives in deep water & was brought up with the chain cable. A very small oblique animal one with purple color that sticks to the rocks near our landing place & is very rare all these limpets have rich orange insides. Two kinds of mussels are seen one like the common one but rather larger, the other very much larger with the shell furrowed. A small Canis Canis is very rare it comes up with the seaweed.

Land shells there is only one kind a very small Helix that lives under the stones. A small Urosalpinx is common in the Marrogeta & red blooded worms there are some fine Alpheidae 2 or 3 species & several Pericardus. A fine Holothuria () the same as for the Marrogeta is very abundant & sticks to stones by its lateral suckers.

Of Sponges there are 2 or perhaps 3 kinds, one cylindrical at & hollow of the same consistence as Turkish sponge it forms small balls on seaweeds; another forms long yellow projections for the water & seaweeds. A beautiful Psicellaria is very common & another Corallium belonging to the genus.

At Sea

July 20th Monday. At 9 AM we were under weigh & were fast sailing out of harbor, though no breeze a gale I was rather loth to leave one that had afforded me so many days amusement & instruction. I took with me one of Ward cases containing all the flowering plants I had found on the island, it is put under the stern window & the Captains Cabin. Some Cabbage seed are sown among them.

July 21st Last night we lost the "Terror" to our small sailing action as though her bad sailing she has delayed us considerably. This afternoon the favorable gale which has carried us on unceasingly at the rate of nearly 1000 miles a week fast increased & by the rapid fall of the Barometer it was evident that a violent gale was bearing the Barometer fell to its lowest at 5 when the gale increased to nearly a hurricane. The Captain kept the ship before it under a close reefed fore & fore stay sail. At 4 1/2 past 2 the ship broke & the Bar. immediately rose. I continued rising all night.

July 31st At 3 P.M. as we were cruising pleasantly on to our destination we were suddenly apprized that a man had fallen overboard. The ship was instantly borne to the life buoy betwixt 4 & 5 o'clock. The man was hoisted with all possible expedition but was too late in reaching him as it had been secured for the 100th time. Another boat was dispatched soon after which picked up the life buoy, his hat & that of another man which had been knocked off at the time were also found, but no trace of our now deceased shipmate. In enquiring who it was it turned out to be Mr Roberts our Master's stowaway who had left the ship at the wharf where the main H. mast for life boat with the water & so he could not be recovered. One of the boats was as anxious in the sea & two men washed out of her who luckily grasped the painter which in the hurry of lowering the boat had been allowed to tow overboard, the 2nd boat towed them alongside & we proceeded on our voyage though a general gloom was diffused through the ships company; & soon after a subscription was immediately raised for the widow before any suggestion was made to that effect by the Officer.

Roberts Cape pigeon & the Aquatic Albatross have been our constant companions & it was a singular & happy sight to see three birds swooping over the head of poor Roberts. Hardly any Albatross have been seen & but a few White birds. Many potatoes & macaroni were packed & a stove of a cask was picked up a day or two ago. Several were seen of an old sea

August 5th Wednesday. The weather since leaving Christiana Harbour has been very equally & with showers of snow, sleet, hail or rain. The temperature variable from 32° - 45° . That of the sea higher than that of the air. As the we are under the influence of the Australian current the weather is rather milder with more sun. & occasional hail. This morning it g. M. The largest hailstones I ever saw fell in the shape of cones with rounded bases the length $\frac{1}{3}$ inch & breadth $\frac{2}{3}$ inch. The largest. The sides of the cones were rough as if the water was frozen trickling down them. When we got them crushed they struck heavily, the shower lasted about 5 minutes. Shape of hail stones - small ones had a much less elevated cone from the apex of the cone to its base. They felt seemed to radiate from the apex of the cone to its base. They were soft.

6th Sunday. For the first time saw several specimens of a new bird flying about the ship, it is grey white with some grey markings of the size & shape of the *Agelaius phoeniceus* which is still common. They both keep somewhat aloof from the ship. Specimens which are not uncommon. I brought up two *Chlorocebus* alive but solitary. (cc & cc) with several specimens of a large transparent shrimp which was hatching its young in a cylinder. The water was rather luminous lately in small flashes caused I believe by small specimens of the *Diphya* (c.) the commoner the *Pyrosoma* one - little *Pyrosoma* saw few animals are seen & of birds the Cape pigeon & the *Agelaius phoeniceus* which is the common *E. fuliginosa*? & the other bird is what I remarked on the 6th.

12th Wednesday. Since leaving our last Port we have been harassed by continual gales of wind. This morning we saw the L. B. Cape of Van Diemen's Land ahead of us. & were proceeding in full confidence of being soon at anchor. At 3 P.M. the barometer fell very much only & being already low was followed by a very heavy squall that carried away the lee sheet & was terrible except storm to sail. - During the afternoon the wind increased to a gale & from main stay sails were split & carried away. The fore stay sail also went. Our boats were damaged by the heavy seas & amongst many other injuries numerous my plants. Several cases were severely damaged. The top part of the heavy sea we continued to see till Friday when it moderated. The barometer continued very low during all this time. This morning land was again observed & at night we had the happiness of anchoring off the *Don* Port - light in storm bay. Nothing could be seen the pleasure the sight of land covered with wood gave us.

August

River Derwent. Van Diemen's Land.

16th

This morning a Pilot came off & we proceeded up the river. its banks were bounded by low undulating hills covered from their summits to their bases with evergreen trees of the *Eucalyptus* whose white stems were very conspicuous, at some places the wood penetrated into the finest park scenery way now & then displaying the newly formed cottages of the settlers surrounded by smiling corn fields, precipitous rocks of basalt generally fringed with wood often dropped down into the water forming a most enchanting scene. Altogether the river Derwent for the size of the stream showed the grandest & yet the richest scenes of any stream I ever saw.

Sullivan Cove is what we anchored on the night of the 16th on the S. side of the river & is the harbor of the harbor an irregularly built town chiefly of brick houses straggling up the Wellington or Table Mountain a grand mass of basalt that runs 4000 ft above the sea wooded to very near the top which was covered with snow.

17th

To day we warped up the river to opposite the Paddock a piece of ground belonging to government & the N. E. of the harbor is covered with small trees & fine grass here we finally moved at a most delightful anchorage out of sight of the town to the S. Mt. Wellington tower bounded in view raising its snow capped peak above the paddock. To the S. the river stretches down and until its turning its banks forming an undulating slopes covered with dense dark wood. The N. side of the river is also covered with wooded hills which rise by & stretching to the westward form successively grass tree hills, Mount Derwent the Union & Mount Direction which meets a turn of the river & shut out our view to the W. Mt. Wellington is the only very high hill seen being the only one whose summit is bare of wood & covered with snow, it stretches to the W. forming a vast amphitheatre of white peaks.

21st

Went ashore for a short walk under the trees of the Paddock they were the *Eucalyptus viridula* & *amygdaloides* the former forming the larger tree whose white trunks consisted of the outer layers of bark soon turned a thin & the right & left. they were strongly resinous & broken trunks exuded a green resin known as eucalyptus or sheppards the resin is so strong that the young plants have the leaves opposite & bear a remarkable similarity to a *Syzygium* as the tree grows they take their



situation & shape. The wood is not good being brittle & transverse undulated of a yellow red color. Under foot the ground is covered with short fine grass with tufts of a cutting grass leaf. Grasses of the Stenogramma hypnum. Black white tree even green abundant with black green pinnate leaves & a dark black back. many of them were covered with galls of a large size.

25th Walked into the Town which is of considerable size containing the streets are very badly paved & in such weather dirty but they are well laid out at right angles to one another there are no public buildings that make any show but a new Court House more building & the Jail.

27th At 11 AM Capt. Forster called a longboat to take Mr. & Mrs. Linnick & myself an excursion into the river. Taking my papers & for collecting we proceeded up the river in his boat. The scenery on the banks of the river as it diminished in width was very beautiful. On the left a vast amphitheatre was formed by Mt. Wellington which enclosed a small fertile ground on which New Town was built the flanks of the mountain are densely wooded & intersected by numerous deep black volcanic ravines & gullies. To the right the banks below Mt. Direction & were steep & a some places precipitation, covered with wood within in dense thickets or open glades. beautiful little coves ran up for the stream communicating shafts before branching. After proceeding for 4 miles up the river we put out one of these coves on the N. bank where a ferry crosses the stream about 500 yards broad & confined by sandstone rocks. Mussels & gastropods were common through the water is not very salt but is seawater. On landing we walked up to Risolen a beautiful spot situated at the foot of Mt. Direction. The thickets consist of Eucalyptus Casuarina Eucalyptus Casuarina Myrsine Sitathus in different species of Opuntia crispa. Mr. Forster's house is situated on the site of the first Government house that was built in 18. by Governor & since it is a large Eucalyptus tree under which the aboriginal settlers pitched their tents. The view from Risolen (the house of Governor) is very beautiful. Opposite to it is Port Wellington & the river winding down to its great town at Whangarei. Spent the evening that evening. The most abundant tree here is at the same time a very beautiful one the Leucaena officinalis or salvage is a little it forms a small tree with silvery leaves & a profusion of light yellow blossoms which perfume the air with a most delightful fragrance closely resembling that of the Spirea ulmaria, it often forms a yellow fringe to the dark evergreen Eucalyptus woods.

The Black is still so equally common but a very far less beautiful tree. The Cherry tree Leucophaea is a small tree with a short trunk & some oval form of foliage the tips of the branches hang down its color is lurid yellow green, the average height 20 ft. The common Eucalyptus on the low grounds are E. viminalis? & E. amygdaloides the latter is small leaved the former forms a very large tree with tall white smooth ascending stems, usually twisted either to the right or left.

The Indigo shrub is of a lively green formed by Peucephyllum, a more leaved one of Croton or the yellow green Woolly &c. The decayed trunks of trees are covered with mosses & lichens so as to appear quite green. Here for the first time I saw a Frankia the Honey suckle tree of the continent, it was a tall shrub or small tree with bright green leaves glaucous underneath & oval cylindrical heads of yellow flowers.

A species of Leptospermum (L. laevigatum?) was very common in some several Hebe & Plagiandra. Birds were not numerous nor any of the animal kingdom - we returned about 6 PM to enjoy the hospitality of our host Mr. Gregory & his delightful family.

28th Next morning after visiting the original garden of the first settler in which we saw some magnificent almond trees now in full bloom with young Gregory I proceeded to a second Port Denison. Our path led up a slope covered with hedge Eucalyptus, Casuarinas of 2 ft. & Wattle. There was however little variety in the vegetation, especially as the ground was too dry for the Cryptanthus arvensis & the season too early for much else. The Eucalyptus globulus or blue gum is very common forming a tree whose lower & younger leaves are glaucous blue & the upper shining & of a very different shape. The Casuarina did not strike me as very handsome. The summit is also covered with brushwood & commands a very splendid view of the interior more especially of the Denison winding up towards through a most magnificent country. The Coccoloba arvensis was very common here with an Adiantum & one or two other ferns. Under foot a small red flowered Epacris (Acrostichum membranacea). Plum covers the ground producing small more green, berries which when red are ripe & from the action of sun & acid of the pulp called Cranberries - a name however given to all red berries Epacris arvensis. The wood of the two Casuarinas are much valued & being cut down are conveyed to Hobart where they are valued at 12 p per ton & used for firewood. I saw none of any great size above a few feet in diameter. A few Cockatoos & ground doves were the only birds seen & no animals of any kind small birds were not so common among the trees but none in flocks. The trees here as every where else bore the marks of fire caused by the burning of the bush which is at different times resorted to both now as well as among the natives of old as every part of the island bears the same marks of fire.

Lappula - Ficaria - Uromatis - Rubus macrophyllus - Acena -

follows that the charred trees must have existed in that time for perhaps in some places many centuries. In some places they are hollowed out by fire for the purpose of forming houses for the natives but this I saw to be rare for their usual habitations were made by forming a slating roof of peeled bark of gum trees against the fallen trunk of any large tree under which they nested. The canoes that once inhabited this Island only 3 remain all males they consist of an old a middle aged man & a child, they are very savage but seldom seen only one lately & then near the latter the interior. We returned to dine at Gregson's where I met the Misses Scott the step-daughters of an old colon upon death of my father. ^{NO} He is now the adopted daughter of Major the fellow of Richmond. After dinner we drove over 5 miles to Richmond. The road is a very splendid one winding as it ascends along the side of a magnificent ravine shut in on either side by densely wooded hills in which Wallabi Kangaroos are still found. Grasping some huts that were built for the accommodation of the road parties soldiers & we arrived at the top of Grap tree hill & called for the number of 11 another house growing but confined to the summit. The view from this spot is very grand especially to the westward & the immense & densely wooded valley through which our road wound, spread out into a large plain bounded in the distance by an oval along hills. As it was growing late I had little time now to examine its botany. Some *Sparganium* & I obtained & carried on with me. Richmond nearly due N of Hobart town is a small town the houses are very scattered but many of them exceedingly good. There is little wood about it except on some hills near it which are very low. The Port water Secutment is the Navy & the police Major trade of the district, his travels in Norway & Sweden are well known. Since being here he has been writing some potential poems & is now making a work on the Chang. For the time he has been here he has amassed a very splendid collection of the fossils of the Island including some very perfect of leaves in an elastic clay, immense masses of silicified wood & some fossil carboniferous sands some many of these & an immense collection of the fossil shells that he proposed are of very great interest. Among his animals he obtained a white cat & a white *Procyon* several poisonous snakes & adders. - Then we met Lieut. Mr. Munro & Mr. Robertson of the 7th. & we had together a very pleasant evening Mr. Munro's house being perfectly English & his drawing room table covered with as many rare periodicals & much nashes as we are accustomed to see at home including prints pictures & a pleasing change after 4 months of our narrow cabins. We went up to Grap tree hill a Mr. Gregson's long bodied vehicle which has been christened the Coffin. & after spending some time met the women who had just turned out this morning to hunt the Wallabi Kangaroo. The baying of the dogs in the deep valley caused a beautiful like among the hills I could not not conceive more of hilarity along through dangerous sport. Two Kangaroos were hunted down by the dogs & dropped the road slowly pursued & a succession of springs & only was brought late at night & I did not see it. On my return to Richmond I witnessed a match between two horses Septator & Ramolette. The former won

29

and the case almost disconcerting the antagonist the second being declined
the winner walked his horse round the course & rather started with that
intention but the animal breaking into a gallop ran off with its rider & after
4 times circling round the course (1 mile) started off into the bush & after much
the jockey was captured at 12 the same night. The evening came on & went
that nothing could be done & I spent it with Dr. Coville the district surgeon
who was an old friend of my acquaintance & who a few months ago
enabled to drive his carriage again. Next morning being fine Anderson
took me to Grap tree hill & with young Ferguson who I met there I botanized
the hill & descending by a steep gully arrived again at Risdon by 2 P.M.
The Grap trees are confined to a low bush on the summit the highest shows
up stems about 4 ft. sometimes dividing into two & about 1 ft. in diam.
their summits are crowned with a tuft of gray leaves like the *Rapanea* or
Phoradendron amongst which a dense cylindrical spike of flowers 2-3 ft.
shoots up of a dark brown color - the new ones had not yet appeared. Some
beautiful *Spiraeas* especially the *S. imbricata* ^{or} *Prunella* were very common.
Also the *Ipheathera glauca* dense with a *Rosa*, *Conocarpus*, *Gordonia*
ovata, *Cassipouira excelsa* 2 ft. & the *Senecio glaberrimus* were very
abundant. - After lunching with Mr. Ferguson I returned with
Capt. Foreman to Asbadon passing the *Distemon* *severum* at
Risdon & a few other plants.

Nov. 12th at 5 AM we sailed down the Peruvians with Sir John Franklin on board followed by the government schooner the "Eger". After proceeding about 30 miles down the Channel the governor left us after exchanging three cheers with his schooner. The weather was thick & dirty.

13th Lat. 44° 10' 15" Long. 149° 29' 9" Course S. 36 E. Dist. 102 miles
Many small albatross *Diomedea* & patches of *Graculoides* about.

14th Lat. 45° 13' Long. 151° 57' 30" Course S. 59 E. Dist. 122 miles.

15th A Land bird a species like a water rail flew on board much exhausted after a N.W. gale. An Aurora was seen in the evening two in the horizon & the 1st stretching along of a dull undefined red color.

Lat. 45° 33' 0" Long. 152° 45' 29" Course S. 50 E. Dist. 38 miles

16 Lat. 46° 15' 0" Long. 154° 20' 11" Course S. 59 E. Dist. 83 miles.
The Aurora was again seen as well as some numerous patches in the water, nothing very smart, all however. Bar at 12 30. 25.0

17 Lat. 47° 46' Long. 157° 59' 31" Course S. 57 E. Dist. 165. Bar. 29.536.
Many patches of sea-weed & numerous patches.

18 Lat. 49° 23' 1" Long. 160° 9' 33" Course S. 44 E. Dist. 135 miles. Many birds seen in the 29.480

19 Lat. 50° 28' 6" Long. 161° 9' Course S. 47 E. Dist. 164. Bar at noon 29.354.

20 Lat.
Early this morning Lord Auckland's group were discovered they consist of one large Island & some small ones separated from the former by narrow channels of water. The interior is formed of undulating hills green to the top of uninteresting forms except when, here & there a big one looking rock stand on their sloping sides. Long flat topped spits run out into the sea with abrupt terminations & black rock covered with two brush wood. The islands are all like this - At the forenoon we worked up a broad harbor on the Leeward side & anchored about 4 miles from its summit in a small bay called Paradise bottom. The Island was discovered in 1810 by Christow who called this Rongelap harbor to the N. W. & S. E. The harbor where we lay is bounded by low lands & chain of islands to the N. with precipitous shores & flat wooded tops, between which the sea breaks with great fury on a reef of rocks connecting them together to the mainland. A long wooded low point stretches out to the South. To the Eastward is the sea to the West the land rises into a hill perhaps ¹⁵⁰⁰ 2000 ft high sloping upwards covered at the top with grass & from a wood 15 ft deep to the shore which is dotted with small trees & shrubs of a dark green or rusty brown color. The shores themselves are brightly green from some plants that grow on them. Both this green fringe is confined to the immediate margin of the bay.

22. For the trees come close down to the water edge. I found both the species of *Macrocystis* runs along near the shore as the *Myrica* does at Kingman's Sound. A *Laminaria* clothes the rocks below high water. The west side of the Island is very precipitous & more bare of wood. Whichever from a distance the group looks very uninteresting from the low undulating form of the hills the long black line of precipitous coast (as it is called) the yellow of the alpine grass & the varied dingy colors of the woods & which from the strong winds are apparently flat topped forests of insignificant timber.

We lay about 1/2 a mile from the shore between two Islets the northern one a long hummock of basaltic pillars called *Aonee shac* & the southern a bright green patch in the water which we since learned by Island from our having made it our stop during the ships stay. Numerous petrel gulls & terns hover round the ship & large black sperm whales are not uncommon in the harbor. The first boat that landed brought off three records of as many visits paid to the Island the first a whop & board forming the yacht for some poor whaler or scaler buried here. The second the record of the visit of the American brig porpoise on her return from the Antarctic sea as she spells it. The third a similar one from the Harsh Expedition under Capt. D. B. B. in the *Estadale* *Estadale* which ships were on their way to Hobart Town after discovering the True Adeline & determining the position of the South Magnetic Pole. The remains of a scaler's hut were found near the spot & a meagre plantation of cabbage & potatoes.

Perhaps I cannot give a better idea of the history of this spot than by detailing a few of my excursions in it. From the dense bush-wood through which it was necessary to push ones way south of us were generally limited.

23. Landed near the observatories where a stream of water runs into the sea. When close to the shore the dense wood hanging over the black cliffs has a very beautiful appearance & the trees are found to be larger than their European size & dense smoke of growth gave reason to suppose. The *Macrocystis* here is a much broader leaved species than the England one is more immersed in the water & does not form such circumscribed or regular bands pulling through it is however difficult & troublesome.



1845.
23.

The beach is narrow & covered with black sand & large round pebbles no plants in particular grow upon it. On the rocks immediately above it which are composed of common black basalt a very delicate *Storis* (*St. Brunneana*?) is very common but not yet developed also a *Stegania* & two species of *Poa* one broad leaved with culms 2-3 ft long erect & a large panicle the other hanging in very delicate tufts over the rocks. A pinnatifid leaved plant in Composite (*Cenia*?) with tomentose stems straggles very commonly every where. Some mosses & lichens also grow upon the stones.

A beautiful stream of water here comes down from the hills & the ground has been cleared by some sailors who once resided here. The sailors tomb is here on a rising ground to the left of the stream now overgrown with many remarkable plants among which are which I take to be a European *Poa* & *Stellaria* which have completely usurped the inside of the mound raised round the poor fellow probably introduced with the cabbage seeds. Raising & observations here has made the little sun look quite alone & reminds one of the first labors of our emigrant colonists.

In the grassy banks here grows a large plant belonging to the *Arabiaceae* (in) of a lively yellow green color very succulent & rank both in growth & smell (something like soy) with rounded leaves & compound umbells of small waxy heads of yellow flowers with purple discs. it attains a height of from 3-4 feet & is of as much in its circumference. An *Aranea* (in) crawls about every where in the immediate vicinity of the sea. Two fine Umbelliferae *Pucedana*? grow as rank & large as the *Arabiaceae* plant. Among them grows a fine Cary 2-3 ft high with large black spikes the *Poa* before mentioned. These together with an *Urtica* & a few ferns cause a rank bed of vegetative matter to be deposited & nourish a rich pasturage for cattle. Among the more lowly herb age are one or two creeping *Coprosomas* a *Cardamine* & *Ranunculus* both confined to the neighborhood of the sea. A *Stellaria* & a plant of flower found in *Myrtilus* Linn.

From here I entered the wood & commenced ascending the stream the bushes & branches were so very dense that it was with considerable difficulty that I pushed along & proceeded up

its banks for a considerable distance - Nothing can be more beautiful than the little fairy spots through which this stream runs it has sunk for itself a little hollow in the rich soil & sometimes expands into a pool or contracting forms a cascade covered in by the tops of the trees meeting only a few yards above the ground is green with immense patches of beautiful mosses or brown with fallen leaves the twigs & branches are fringed with Stictis - The dense low nature of the woods is its great obstacle requiring much hard & slow work but a bottomless & is richly recompensed by the Cypripedium stone he meets.

If birds there are hardly any but a small green finch which is itself rare but has a full rich melodious whistle like our blackbird very occasionally uttered. "I saw none."

The trees are of several kinds which I enumerate according to their prevalence - A Myrtaceae with hard elliptical leaves is the commonest tree here its branches are from 3-4 ft in young round & covered with red peeling bark generally imbricated & at about 5 ft from the ground very much branched - the branches are flat topped & leafy only at the tip where they are exposed to the light & atones when looking up into one of these trees nothing but a confused mass of red branches is seen - The flowers are now in a very young state enclosed in red brown bractlets they are terminal the petals white with a red lip? - A curious tree belonging to the Brown genus Sphenostoma or Dracontophyllum comes next, it throws up a straight round stem of very hard wood covered with black brown deeply furrowed regularly bark - the upper branches are very twiggy bearing glossy leaves at their extremities imbricated then coming a hanging down of a green or brown color - The flowers are white the axillary racemes very pretty. Small bushes of it are very troublesome in the thickets the twigs being very elastic - The ground underneath one of these trees is covered with the delicious red leaves -

A tree in Cruciferae with dark leaved green leaves in threes the young plant & serrated form generally large but has from 5-15 ft high generally very dense the flowers are small

Box
23^d

And green in simple umbels the fruit white with black tips to the style. Its natural affinity to the log is very close though it has not the climbing habit.

Two species of *Eprosma* are very common the larger has bright green elliptical leaves & large bright red berries it attains a height of 50 ft & has an intolerably fetid smell like a *Hibbertia*. The second species is smaller with a low woody gnarled black barked trunk bright red berries & small serrate leaves it is a pretty bush from the bright color of the berries & shining dark green leaves its height is from 2-4 feet.

A plant whose natural order I have not yet ascertained forms a woody shrub very common in the woods it has broad serrate leaves minute axillary flowers & a pale blue berry. Its branches are very stiff.

Myrtanthus forms a dense justigiate bush with a rough round stem, bark whitish very much cracked. Leaves green above rusty yellow underneath. Flowers white - terminal cymes.

A round cross leaved *Phylloium* grew near the stream with some fine specimens of a *Nigama* two *Asplenium* with very coriaceous green fronds two species of *Grammitis* on the trunks of the trees, the *Polypodium Borchardieri* climbing their trunks very commonly. An *Urena* & another *Carex* were common in the woods with various plants like *Saxifraga nigrum* creeping over the tufts of moss under the bushes. In a two species of *Orchidaceae* showed their leaves & last year fruit on the tufts of moss & a little *Hymenophyllum* grew in the most shady corners. But *Mosses* & *Fungi* were everywhere more abundant than any - covering the rocks under the roots & branches of trees with broad beds of green yellow & brown forming beds for the more delicate plants to grow on & swelling in the shade & moist time these low damp woods offered them. Among others a *Dicranum* was very common & neither the *H. rimocata* or *g. adsparia* scarce together with some *Hypna* & a noble *Leptodermis* growing on the ground.

No animals have hitherto been seen or heard of but some mice a nest of which were dug up by one of the men engaged in setting up the observatory. The weather has been tolerably good rather breezy. Sometimes wind is the bane of these latitudes.

1840

Candyagou Harbor Lord Auckland Islands.

Nov. 25th Today I landed with the intention of skirting the sea among the woods to a curious conical peak of rock that forms a conspicuous appearance at the N.E. end of the Island. Landed at the observatory & immediately plunged into the woods that border the sea where they are much larger than any where else. The myrtaceous tree here grows 30-40 ft high. The Graefia & Araliaceous tree near as high with the Coprosma in proportion forming a very dense wood very dark & damp. Here the ferns flourish in beautiful luxuriance & first of all I was delighted to find two tree ferns with short stems 2 or 3 ft high & fronds 4 or 5 feet long. Their appearance was equally striking & very pretty one species has the fronds much more horizontal than the other, both belong to the genus Aspidium & I am not aware that tree ferns have been found further South in the Islands.

Other ferns were equally luxuriant two Sphagnum with shining dark green fronds. Two Pteris one a large one the other confined to the immediate neighbourhood. The Pteris Præmorsus forming large glaucous green patches ^{near} the sea. Three species of Polypodium chiefly found on stumps of trees one on the ground with drooping pinnae which are acutely serrated. The Polypodium Billardieri growing up & along every tree & a lanceolate leaved Grammitis generally accompanying it. Two Præmorsus were not uncommon one forming a tall pale green leaved shrub near the sea with white flowers. The other with crinate pinnate leaves very regularly disposed a small bush 2 ft high & very erect & sparingly branched. A large plant belonging to the Compositæ with pinnate tooth elliptical silky leaves & a stem with large blackish patches of drooping capitula grew from 1-4 ft high & curious coarse fibrous substance grew at its roots close to the ground. Some leaves were upwards of two feet long. The Horkelia quadrifaria formed large teroid green patches on the earthy bottom, where several Cruciferae & small scarlet leaved Coprosma & Cypripedium - Juncus maritima & Marchantia were in immense abundance some with Lichens & a very few Fungi no Polypori or other sylvan species. The little hills I found with some difficulty for the wood is so dense that

Nov 25th I walked round it before morning low near the Sea. A strand close to a little bay of the Sea is about 200 ft high covered to the top with wood; it is formed of *Wasalthe* columns in which were some small crystals of *kyzite* or *tourmaline*. The ascent or climb opposite the Sea is steep. A green *Alva* grows on a moist spot on the rock with a beautiful little branching *Perovnia* with bright-blue flowers & ciliated leaves. The large *Noa* mentioned before is abundant on its cliffs as well as a rather equally large but very sized with smooth serrated leaves. A large *Prosmus* grows in similar tufts. The top is flat covered densely with small trees of the *Pygmaea* plant about 2 1/2 ft - 3 ft high their tops being raised to a level by the wind you stand among & look over them. The view from it is comprehensive. Especially of the low coast land to the S. & one uniform undulating map of tree tops so close that they look as if they could be walked over. - Some tracks through the bush at the top puzzled me much, they were abundant in the wood below but I did not find them. They are I suspect made by pigs some of which were left by Piris too in 1815. At the foot of the hill are numerous plants of the succulent *Aradiacea* & a tall herbaceous plant out of flower like an *Urticaceae* one. The former has exposed roots like those of the *Kerguelin's Land Cabbage* & much resembling them in appearance. A little way back from the Sea the appearance of the wood changes becoming smaller not more than 15 ft high the trees being branched from the bottom make it denser & very difficult to penetrate. The soil is rich black & good formed by the perpetual decay of the leaves. Tracks of animals were here very distinct & I found the marks of two or three cloven hoofs.

From here I descended to the Sea by a small bay where a stream entered it densely fringed with tree ferns. An *Urtica* grew on the pebbly beach that stood about as much as the *U. urens*. On the rocks in clefts a very minute mossy plant in large green tufts it is apetalous & presents some anomalies to any Natural Order to which I can refer it.

The Sea was calm & some whales were blowing in the bay.

1840.

Pendergus Harbor Lord Auckland's Islands.

Nov.
25th

fully raising their huge backs out of the water & splashing on & soon blowing with a sudden snort at every appearance & after some time throwing his tail into the air preparing to a deep dive - Some beautiful small grey gulls were sitting on the rocks picking up a sustenance while a lovely Tern the most elegant of all sea birds with silvery belly ash grey back & jet black head, was joining him after his long wings dipping & touching the water scarcely agitating it as he fed himself. In the low cliffs some numerous looking Gulls with white fronts black backs & crested heads were wondering what I was about. After picking up some seaweed I returned to the bush & water on my back to the observatory.

2nd To day I started to explore the mountain that rises immediately above Paraka's room - After striking through the woods which retains its character for about 200 ft above the sea on coming to certain breaks in the continuity of tree & bush a large Moss commences to cover all the open spaces growing in large close tufts of 2-3 feet high of a light straw color. A little higher or about 300 ft above the sea though generally covered with some brushwood chiefly of the Myrtus Tracophyllum & Phormium? there are spaces of bare ground exposed to the light sun are generally covered with a species of Antennaria of small size with red berries, a very curious plant near Juncea with upright very rigid leaves - A new genus belonging to Stylidium a very small Polypodium & a beautiful little Gentiana - & these the Antennaria & Juncea are the most generally diffused sometimes even entering the brushwood. The Stylidium & Gentiana are quite confined to the very limited spots of bare black earth the former grows in dense hard green even patches dotted with the white flowers, having a purple anther in the centre - The column is not visible. In the woods here where there is a stream & water Cryptogam vegetation is very luxuriant the large Polypodium is abundant & the Symplectoph with drooping leaves - also a smaller one that grows in patches on the trunks - One or two Cephaelis

commence here forming lay shrubs among the stronger trees & wood some Juncaglossa that cover open ground where found as well as a minute Drosera out of flower in tufts of moss.

At an elevation of about 1000 ft there is a broad green swamp on the face of the hill covered very densely with small shrubs of two sp. of Coprosma one with the short date leaf & the Pharmitis? Among these the two Peucedana the succulent Arabis & the silvery leaved Compositae & a beautiful plant in Asphodelaceae grow so luxuriantly that you walk up to your knees in water at a every step crashing through their succulent stems & slipping into little holes of boggy earth. The plant in Asphod. has a thick fibrous root a short stem of 1-1 1/2 ft high of sheathing imbricated patent or reflexed leaves 1-2 ft long bright green & very succulent from the centre of their leaves it throws up a scape generally about 2 foot long, bearing a thick spike of golden yellow flowers in length emitting a delicate scent. Sometimes though rare 2 or more spikes are thrown up the plants are some barren & some fertile the latter the rarer & a more beautiful ornament to such a desolate situation I never saw. This with the broad red berries of the Peucedana the waxy flowers of the Arabis & the silvery Compositae form a most curious marsh scene with here & there a tuft of the Bromus or Carex? Underneath them on the ground an irregular large flowered Ranunculus with bright coriaceous green glabrous shining leaves is common & the large shrubby blue flowered Veronica forms a handsome addition. In these bogs some mosses also grow among others a Polytrichum with smooth leafy stem a Bartramia? also a small white flowered Geranium - ascending a little higher toward the top of the hill other new plants appear & first a beautiful Hebe smelling very strongly like Myrtus & with a handsome golden panicle drooping - a curious Plantago very succulent - An Asperula? a most beautiful thing with so imbricated glabrous shining deep green leaves & erect spikes with large drooping white flowers with purple discs was very common also a little

Lord Duckland's Island.

Delichium with silvery leaves straggling over the rocks. The summit of the hill is flat topped with some long walls of basalt common in some parts. Some little green finches were seen of the same species as those found in the wood. A large petrel with a white bar on the wing was also common. But the pride of these situations is the large albatross now sitting on its egg. These immense birds are of a pure spotless white all over the belly breast head & neck, marked with brown & black between & on the wings & back. Their nests are scattered among the tufts of grass & are merely low heaps of earth scraped together into a cylinder about 4 inches high with a depression at the top filled with coarse grass in which the mother deposits one egg of a white color generally very dirty. On approaching them they stretch out their necks & snap their huge mandibles at the intruder which are no stronger than the bile the skin of the finger. One fresh topples them head over heels off the nest when the egg is taken the bird getting up & looking calmly on. After resuming her position on the raised nest. These eggs are very large weighing from 15-20 oz. & holding about 3-4 gills of water. They are excellent eating the albumen being bluish & each of the yolk is pale yellow.

The hill top is covered with long Phormium & leaves of the silvery composite & another very beautiful one with large purple flowers of the same genus? as the white flowered Satureia? Another small composite is also common as also some two tufted Monocotyledons the Plantago &c. In the rocks a fine Legume is abundant as also a fine plant like Juncus tripartitus very near that genus but with elongate styles & very large stigmas. Also a Larocarpus a hairy Ranunculus a Potentilla? very scarce & a very curious Symplocarpha looking Amelanchier near Podocarpus which grows in holes under the rocks. If seen the Asplenium ^{filix} fern hangs over without arborescent caudices. The serrated leaved Sphenocarpus is immensely abundant & a small very concave leaved creeping Grammitis in crevices. If Onoclea the Andropogon is common as also a fine Crostaceum? Pharbitis Dioscorea? & several Lycopodium that do not grow on the low ground. Periplocum & Lichens are also common.

J. Ross

Accompanied Mr. Bird & Hallett in the 2nd Cutter to the S.E. extremity of the Island about 4 miles from the ships the sail under the rocky cliffs of the sea covered with wood was very pretty - plenty of gulls & Cormorants kept flying & hovering round us.

Landed on a shelf of black trap rocks opposite an Island that lies off this point between which there is a chain of breakers my companions were in search of frigs of which many had been seen by some of our sailors when ashore. The ground was covered with long grasses & the Salicyl. seemed comparatively growing there - 4 ft high evidently recently broken down by the frigs of whose tracks & marks we saw many but none of themselves in the beach the *Perzuelus* *Sand* *Conia*? grew of a large size & in great abundance along with three other plants belonging to that Island - the *Halimoloe*, *Portulacae* & the green plant of small white flowers which proved it to be a true *Bullisarda* which is I suspect the general Northern form of *Lilaea* - The *Duboragae* also produced when same of stamens & pistilla & a re-examination confirmed the view I had taken of it from an examination of the imperfect *Perzuel. Sand* - Specimens. The *Conia* grew here also a beautiful blue flowered *Amelura* a tufted *Scorpus* or rather a genus near *Solepis* & very curious *Plantago* with leaves closely appressed to the root & a plant with flowers apparently a *Rumex* - In the stones & beneath old wood a pretty *Marromitron* was common - In the sea were several green alga & other curious seaweeds.

Proceeding northward & eastward the sea forms a shallow Bay from which projects a beautiful arch rock a very fine object though inferior to the 1st near Karla on my much recent long at Browne - It was capped with trees & tufts of grass that took away from the desolate appearance of the black amphitheatre of precipices that surrounded it. Numerous gulls, Cormorants & Petrels were flying about it. Returning to the boat I picked up a beautiful *Halotis* & some other shells for the

Lord Auckland's Island.

most part much smothered down - A fine Reel was swimming about within a few yards of me rising out of the water & staring with open eyes, he had a fish in his mouth - Embarking again we commenced pulling back wards & landed under some low bushes when one of our sports men shot a young pigeon - In the wood I found a Splachnum which I had before gathered in the hills in a marsh here growing out of a moist hole in the trunk of a tree & it somewhat resembles the S. muricoides. I saw a fine Hawk hovering over the woods -

Dec. 1. We ascended with Smith the hill above the Sheers stores & added a few plants to our collection - The day being fine we with a boy of Lucifers fired the bushes for many miles a strong breeze soon fanned the flame & kept up a glorious blaze - clearing a road up the hill in rapid manner which is very much wanted for passing through the bush is most tedious & destructive to the garments - A curious little Epilobium grew at the top of the hill with glossy red leaves at the summit we kindled a glorious blaze among the long Prostratus. Descended to the Sheers stores & picked up a third Epilobium like S. alpinum with red flowers. A party returned from Laidlaw's Island & brought me the purple & the compass. For the white side one of the hills up - They were both growing near the sea - as was a beautiful gentian which is confined to maritime rocks & which I had picked up out of flower on some other Island. it has a very ugly appearance but smells very disagreeably in drying - A small sandy bay to seaward of our anchorage a curious plant of Lobelia was brought me growing prostrate in the sand bearing large purple red berries.

A night on this Island is very noisy from the quantities of the blue petrel (of which only one was caught at our headquarters land) which come out of their holes at night & flying about keep uttering a series of disagreeable coos they are very numerous or much so as to keep up a perpetual din - They are called mutton birds from their flesh when boiled tastes like mutton they lay one large egg - Many were caught & eaten they are pretty creatures

They were attracted by lights & after flying into the observatory striking against the walls &c. a fierce black petrel somewhat larger than about with it.

Descended the hill for the last time making a very hurried excursion. Found a fine *Pygmaea* growing on the moist soil near the top - also small *Agrostis* on the rocks very scarce - a *Juncus* sort of flower with articulated leaves. the *Veronica* also near the top the *Spilobium* like *C. alpinum* & a *gentiana* perhaps a large one of the small one. In descending about 1/2 way down found a beautiful *Chilanthus* in one very circumscribed spot only among some loose tree wood.

10th At 8.30. I saw the crimson light of the Aurora australis extending from N.E. to S.W. a few degrees above the horizon.

Lord Auckland's Islands.

This small group was discovered by James Cook during a cruise in a whale ship in the year 1770. He left some pigs here. It is often visited now by Sealers & partly of whom one lived here having erected a small hut in Parakee house the present site of our Observatories. Our ships are I believe the only English ones that have touched at them for centuries perhaps Cook & his crew were not aware of their existence. With the American ship Transit some visited them last July within the last 12 months as the accompanying copies of two statements left by W. S. Brig Porpoise & the French vessel Astrolabe & L'Esperance show.

Climate

The climate of this group is probably very uniform during the whole year the land being so surrounded by the sea & the trees are evergreens & many of them show the last years growth in a very perfect state which would not probably be the case were the winters very severe. During the 31 days that we lay at the Islands the mean temperature was 53.5° & the minimum 36° . The sea generally 2° to 4° colder than the air. Rain was frequent it fell during 9 days. Snow 1 day. Only once saw the snow lay & then for a very short time only on the tops of the hills. A very great wind, rain generally prevails the air the sea & the land were lashed & storm during the day. During 33 times of observation the barometer coincided with the temperature & 24 times of these rain was falling. — There was a difference of only one degree 3 times. — $28^{\circ} 3.2$ obtained with 13° . The average height of the barometer was extreme 29.904 & 30.013 . — The Wind generally prevails in strong breezes from the West often accompanied with thick weather.

Position

75

Clim

Some of the rocks from especially all in the Compap.

And

As far as was seen of this group they are formed entirely of a black
 & calcareous rock. often joined into basaltic columns or compared of a very hard
 tough conglomerate. The soil is in general very rich from the moisture &
 abundant decomposition of vegetable matter. There are no lakes or marshes
 here there are some acres of spongy ground on the side of the hills covered
 by the percolation of the water under a some pretty soil which itself is
 entirely formed by the summer decay of several thick succulent plants the
 cover is in the two Androsace & Phacelia. The Androsace & Phacelia with
 large soft moss Compositae & Proserpinaca. Being on a slope the soil is rather
 in its position by the prevailing wind. These plants under which is deep
 gutter the water runs in narrow streams. The surface is of a bright green
 from the foliage of these plants which grows so densely that the soil
 seen. Near rock is very scarce on the Island except some perforate Lichens
 at the tops of the hills growing some common plants mosses &
Lichens. No minerals of any kind have been seen.

Vegetation From a distance there appears almost an equal distribution of Proserpinaca
 & low but very dense forest, above it is a belt of low bushes chiefly Proserpinaca
 & Leprosoria & the trees of the lower ground becoming prostrate extending
 to about $\frac{1}{2}$ of the tops hills from the top part which is low as the low ground
 is covered with a large Proserpinaca with leaves 2 ft long.
 On landing after leaving the narrow rocky beach which Proserpinaca covers
 numerous plants you plunge at once into a dense thicket where the Proserpinaca
 of ground is nearly $\frac{1}{2}$ of the whole is covered with Proserpinaca & Leprosoria
 other this very remarkable predominance of ferns is true for about $\frac{1}{2}$
 yards from the margin of the forest up which the country suddenly rises
 more flat. The most striking trees are the Androsace & Phacelia which
Androsace & Phacelia & there is about an equal proportion of Proserpinaca
 ground above the ferns the Androsace being the most numerous
Proserpinaca & Lichens though less striking is appearance as occupying only the
 intervening spaces & the surfaces of the large trees are most abundant
 both in species & specimens covering a dense coating to the summit of
 with damp vegetable mould the rocks on the trunk of the trees are covered
 themselves with very various species. It would be hard to say whether the
 trunks of the trees the ferns or the lower plants cover most of the surface
 surface of the earth.

The upper part of the rocky ground is formed of the same Androsace & Phacelia
 the exception of the Androsace, they are however however in stature more low
 from the base hence much lower & from the distance from the sea more

Since I commenced with the survey there are numerous bushes of Leprosma and Lythamum & a variety of bush belonging to a Hamamelidaceae to me. Very few ferns grow here except where a stream runs along forming a small deep ravine full of mosses & fringed with tree ferns. Here a small Schizaea & the Procris appear. Above this is the zone of pine woods which is very loose & intersects about 1/2 the altitude of the island. The bushes are chiefly those of the lower grounds only more situated but they open out into grassy spots & are frequently bare places covered with black earth & some are numerous roots of the existing trees. Only the earth here remains as bare of vegetation. I saw at a top to conceive there is no great quantity of it but its appearance is remarkable being often spotted white with a little Lichen & presenting peculiar plants which are Lythamum and above it some not found elsewhere. Such as the Isotria, Schizaea, gentiana a shrub like Impatiens & Grossera, & a creeping Grossera. Above this the hills tops are covered with long grass of the Procris the Acrostichum & some cases Phacelia & Umbelliferae Antennaria & Umbelliferae plant with a Ranunculus & some Compositae. Above all the Alpine zone I distinguish by the appearance of the Isotria & other scarce plants.

The following arrangement may give some notion of the various zones of the Vegetation only such plants are mentioned as are peculiar to the localities & hence typical of the zones.

1. Maritime zone, confined to the sea beach, maritime rocks & the wooded Endospermum directly exposed to the sea.

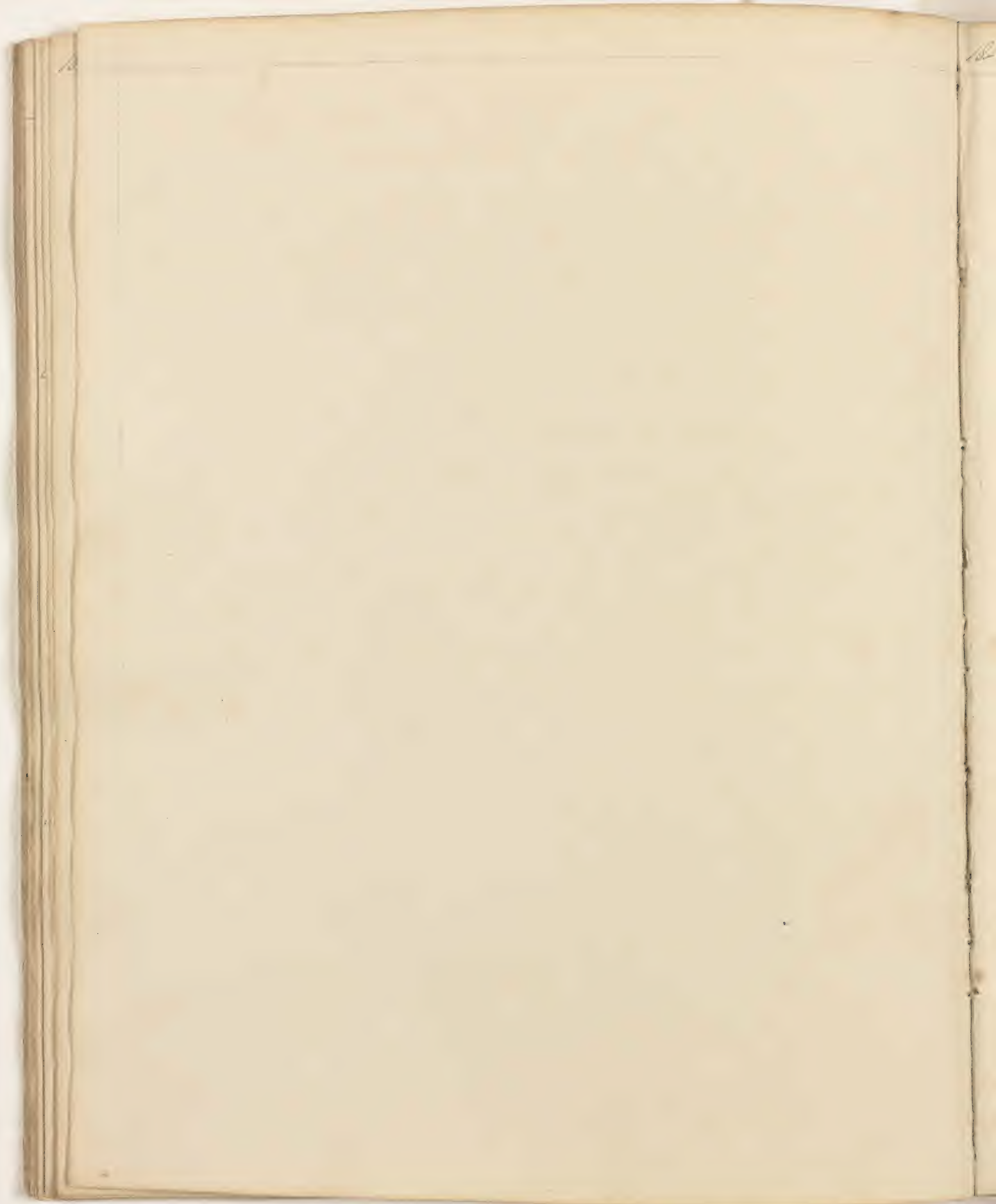
Ranunculus 1. - Cardamine 1. - Sedum 1. - Portulaca 1. - Isotria 1. - Callitriche of Halimifera 1. - Antennaria 1. - Compositae Senecio 2. - Gentiana 1. - Veronica 1. - Polygonum 1. - Veronica 1. - Plantago 1. - Senecio 1. - Gramineae Poa 1. - Isotria 1. - Polypodium 1. - Stegaria 1. - Muscus 1.

2. Rocky zone, consisting of the dense woods reaching for the sea about 1/2 of a mile inland or a few feet where the land suddenly rises.

Myrica 1. - Gratiola 1. - Leprosma 2. - Lythamum 1. - Hamamelid. 1. - Veronica 1. - Orchidaceae 2. - Gramineae Hainia montana 1. - Carex 1. - Junus near Carex 1. - Lepidodermis with arborescent caudex 2. - Asplenium 2. - Gramineae 2. - Polypodium 1. - Many mosses & Fraxinifera Sickens 1.

3. Shrubby zone, not well defined in botanical species bordering upon the former, following more negative than positive.

Almost all the shrubs are small forms of the trees of the Rocky zone.



2. Various shrubs near Seagrass. - Several of the upland plants appear in small quantities on the dry ground among the shrubs such as Chrysom some Coprosma as the blue flowered Prostrata. - Asclepias Asclepias mentioned under the woody zone. Large Lychnis.

3. Upland & Sub alpine zone. - In open country covered with a long Prostrata the shrubs confined to shaded places water courses &c.

Grossa 1. - Gentiana 1. - Epacris 1. - Stylidium 1. - Chrysom 1. - Thlaspi 1. - Junca 2 very curious species - Asclepias 1. - Some common Lichens growing on the dark bare ground. - Cornice 1 blue flowered. - Coprosma 2.

4. Alpine zone. confined to the tops of the hills ft ft ft above the sea. This zone is most distinctly marked as to its botanical limits though not in any other way save by the presence of some ledges of basaltic rocks often appearing a prostrata form. Many of the Sub alpine plants ascend to it but none of these mentioned descend beyond 100 ft from the summit.

Flammula 2. - Cardamine 1. - Scilla 2. - Geranium 1. - Potentilla 1. - Arctostaphylos 1. - Gentiana 1. - Plantago 1. - Helichrysum 1. - Corydalis? 1. - Antennaria 2 of which found at level of sea. - Epilobium 1. - Junca? 1. - Geranium 1. - Andros 1. - Cardamine 1. - Senecio 1. - Lychnis 1. - Prostrata with many other species Lichens &c.

The distribution of the Sub alpine zone seems to follow the same law as in other parts of the world as far as their position on the island is concerned. Many however belong to forms which were not so far to the north in Southern latitudes.

Mamm.
malin.

Wild dogs are perhaps the commonest animal on the Island as soon as they were introduced by Capt. Minto & after in no particular form there in similar situations I need not dwell on them.

Ships - some small mice were dug up when digging the digging a good deal for the sheep stories they were described to me as similar to the common mouse.

Cats - two young cats were found attended by the mother who escaped they were of a red brown tabby color thick rather thick they were not many days old whether wild or not I cannot say probably they escaped from some sailing party.

Seals - a small eared kind called the Hair seal was taken & preserved.

Whales - The sperm whale is often seen gambolling in the bay. The black whale was also seen by some.

Fish. Though the River was often shot very few fish were taken and about 5 or 6 kinds which were preserved in the government collection.

Insects are very scarce on the Island. A small *Culex* was the only coleopterous. A small *Phalangia*, the common blue beetle most annoying blowing on sea clothes & a more troublesome one said to infect the shores.

Crustacea Some small long legged *Phinopus* crabs with nothing to eat in them some small shrimp &c.

Mollusca Land shells one very small - *Limulus* 3. *Brachy* 3.

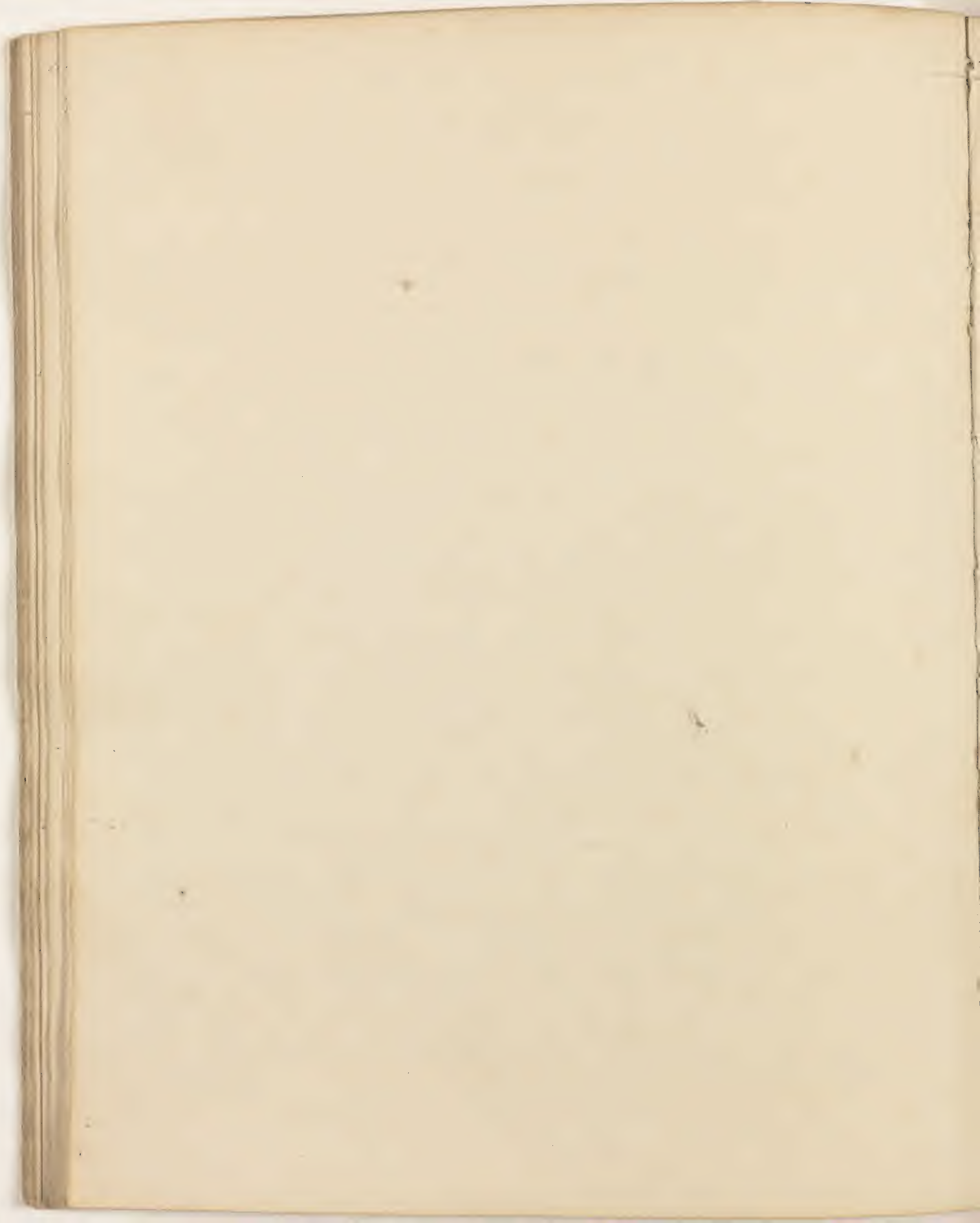
Marine animals 3 - *Halibut* 1. *Chiton* 3

Arachnida the common earth worm & several marine arachnids.

Vegetables numerous in the Sea some long of *Isotriaena* *Corals* & *Pinguicula* &c.

Birds Land birds are few in number & very scarce.

1. Falcon one sp. with rusty red bars on legs. 2. A curious bird all over of a dark bronze green which are called the Parson bird it is of the size of a black bird with two cups of rusty white feathers under the chin.
3. A small green very tame finch that utters a peculiar more towards whistle is the most common land bird. 4. A small green grassquit rather rare. - 5. A small rail. - 6. A Puffin very tame & abundant and some of the shots off the main Island. 7. An Antinous or Tit Lark, & a black sp.



- Dec 5th & 6th Sunday, in severe drizzle & rain all day. Endogenous heavier
 12th gloomy weather. Passing through Mount St. Helens. 11:45 AM. Saw the
 one of some specimens we could not see before. It is 10 miles from any
 land. These birds appear common as we passing about the water
 many on the appearance of any danger.
- 13th 7 AM saw a shoal of Herring. - Early this morning the land
 Campbell's Island presenting a magnificent range of rocky precipitous bluff
 points & pointed evidently volcanic. In the morning along the
 coast some curious rocks were passed. On the western side of the island
 a series of long grass but as we got round a number of broad leaved
 shrubs & the beautiful Lichen cover plant found on the island. A few
 at noon then two miles from shore through a grassy spot the green
 herbage with yellow so when dark was it. At the coast of the island
 all covered densely with low shrubs. 11 AM standing in the South harbor
 a very narrow arm of the sea up which we had to work. its length
 5 miles & mean breadth it averaged one very strongly of the upper
 part of Loch Lomond on the Clyde being densely wooded from the water edge
 to an elevation of 2,200 ft. I believe this the steep mountain side to an
 elevation of 1000-1200 ft. after turning it is covered with a very
 well of forest. The water was deep to the very shore & as we stood
 along back & back working up the harbor we appeared almost to hang
 over the land. At 3 PM when nearly at the head of the bay we landed
 on a bank with a slight elevation or shoal that we were perceived it
 a few minutes after the "Tiger" sailed about a mile astern of us after
 a few minutes we got off but our consort could not start her water & returned
 her boat & was not released till the top of the next tide.
- 14th 2 day I procured a good many of the plants of the lower grounds.
 The whole island is of recent the same nature as L. Cumberland but
 vegetation is not so large but I think more abundant the hills being
 more numerous & thus forming more valleys & better shelter. The
 large *Spermatophytes* grow abundantly *Saxosa* *Scrub* *Spice* also the
 plants near *Myrica* & some *Salix*, a but none of the *Myrica*. &
 only one (the large *Saururus*) *Arctia* *sea*. - The ferns even of the same
 kind & stature as those at L. Cumberland the *Lycopodium*, *Polypodium* & *Cladonia*
 & some *Symphylla* among of the alpine plants of the hills. The
 grass at the water edge. The margins of the sea were lined with
 the same *Phragmites* & other seaweeds were common to both, the
 same may be said of the *Protophytes* & other *Infusoria*.

Oct.
14th

The same sea birds were seen - The M. backed gulls & Landed long
tutels had many nests on the banks of grass on which they were
sitting, and all at once were very abundant on the water. One
sportsman procured little else but gulls, Shags, & Petrels. one duck
was killed

15th

Started early for a long excursion on the hills with Mr. & Mr. & Mr.
Pitt. We landed in a little bay near the head of
the harbor. There were the remains of a hut & two tombs on a
slope the other of a French woman recently erected. The beach here
was muddy, & the banks near it mainly with plenty of *Phragmites*
the *Carex* *Cattin* etc. two *Epilobias* & other things. The wood was all
burnt down double by the natives who had made a track through
the bush but kept ascending a valley that ran to the N. E. though
a burnt bushwood chiefly composed of the *Ld* *Maclean* Island
Sphenotoma after leaving it with grass & burnt wood blackened
as we entered a hill about 1000 ft high covered with the *Prostrata*
blue flowered *Croton* & other small plants. The top was a mass
of burnt broken up into fragments the debris of which especially
that exposed to the west was such in plants especially grasses of
which 7 species were gathered. As I separated from my companions
who kept along the ridge to look for all at once eggs which were
very abundant whilst I descended to near the sea on the weather
shore. The grassy banks covered with the *Chenopodium* the *Senecio*
indica & the *Epilobium* descended to within 20 ft of actual exposure
of basalt the bounded the coast the water courses were full of
Epilobium the *Callistichoid* plant &c. Amongst the some rocks that found
a grassy debris a curious stem-like *Cardamine* was found also a little
Myosotis & that also occurred at the top of the hill. Lichens were very
abundant on the rocks. The coast view of rocky hills & bold black
beaked birds & iron bound bays, swathed by a waving surf was very
grand & heightened by the black forms of some enormous rocks that
stood out to sea and reared by the angry sea. The birds seemed
very jealous of being disturbed in their haunts especially the
long winged Petrel near whose nests I was encroaching & who kept
screaming over my head as if they would commence an attack
& spring along the ground like *Phalaropus* to lead me from their
young

Incens

Sept. 16th I again ascended to the top of the hill among a lot of *Albatropus* nests the mother seemed to fear us and some of them were sitting & attended by their mates who always made off at my approach leaving the weaker members to defend itself & off. Here there grew a small *Lupinus* on some moist earth & the small *Ly. coprosma* of *D. Macleanii* struck across from this hill to a high one on the N. side of the head of S. harbor which forms the joint highest of a long ridge that separates North from South harbor. The former of these is much the shortest & less steep on the banks & nothing like so landlocked or sandy. On a low wall of trap about 20 ft high I found a *transmission* & my old companion *whurru*. I got *La. leucodra* with some other *compos* & *Lichens*. Ascending through many *Albatropus* nests of which I could count about 20. Came to a mossy spring with a pretty *Juniper* growing in it of the same genus as that on the top of the hill at *La. Macleanii* which I had just gathered in great abundance at the summit of the hill. I lately descended it has beautiful large cantanous capsules. The summit of the hill was covered with pink & orange masses of basalt one about 100 yards long & the others by 50 broad & 50 ft high that formed the apparently uncrepeable top clothed with *Porphy. fimbriata* & *Lichens*. The narrow leaved *Stemodia* & delicate leaved *Trifolium* (not *arborescens* but) were abundant but very diminutive in size & quite flatter the ground I was much surprised at finding them in so very lofty & exposed a situation.

Descended finding the *Chelanthus* in a young state very abundant to the shores of the harbor about a mile below the *Trifolium* & found a watering party the tide was low & *Pin. alba* & *Jun.* were had a good mass of coarse *mustards* that came abroad but here & some of large size. The *Jun.* near *reticulatus* was abundant in the swatches near the sea as was the little withered *Sp. leucodra* & the *histroid* plant in a very magnificent state.

Many specimens of very coarse Jasper were picked up on the beach of this island as well as some small quartz crystals. Mr Smith found a large bed of white chalk traversing the basalt.

If third besides the commoner ones I last Island the same I saw left chrysochite? was found. And this are very abundant.

Latitude of South Harbor

Longitude

1840.

Campbell's Island.

At Sea.

Dec.

17th

9 AM Thursday. Clear & calm & sailed out of South Harbour for the Antarctic Sea. The weather being thick with squalls we soon lost sight of the land. At noon Lat. $52^{\circ}44'5''$ - Long $169^{\circ}2'$.

18th

Lat. $54^{\circ}21'23''$ - Long $169^{\circ}11'$. Air 40.5 to 44° . Sea 1st lower. Bar 29.684 - 810. Fine strong S.W. breeze.

19th

Lat. $55^{\circ}56'$ - Long $169^{\circ}29'$ - Air 41° - 44° - Sea 3rd lower - Bar. fell 29.754 - 29.022 . Heavy drizzle - heavy calm at 4 PM & freshen up again. Observed many. White-headed Albatross & Petrel, heard Penguins.

20th

Lat. $56^{\circ}44'26''$ - Long $169^{\circ}33'$ - Air 38.5 - 40.5 . Sea 2nd lower. Bar. rose 29.993 - 29.345 . Wind S.W. in strong gales since 8 PM & raining at night. Saw many Albatross & 1 King Penguin also some sea-cats. Plenty of the White Petrel or Gull-like bird.

21st

Lat. $57^{\circ}47'20''$ - Long $170^{\circ}23'45''$ - Air 37° - 41° . Sea 2nd - 3rd lower. Bar. F. 29.351 - 29.331 . A little snow in rain, Wind more moderate & many small mutton birds. Observed but lost the bottle & 2 self Pigeons. Thermometers.

22nd

Lat. $59^{\circ}0'38''$ - Long $170^{\circ}55'55''$ - Air 36.5 - 40.5 Sea ^{more 30°} 2nd lower. Bar. F. 29.277 - 28.832 . Gloomy weather with a little snow. Wind changes to N.W. moderate. Many mutton birds & a Petrel - some seaweed - rounded in 450 fm. from the edge of the water.

23rd

Lat. $59^{\circ}41'4''$ - Long $169^{\circ}36'48''$ - Air 35.5 - 40° - Sea 2nd lower. Bar. R. 29.334 - 29.292 . Wind West again but draws round to the N.E. & S. Fine with a little snow.

24th

Lat. $60^{\circ}31'34''$ - Long $170^{\circ}32'48''$ - Air 33° - 37.5 - Sea 2nd lower. Bar. R. 29.310 - 29.573 . Steady breezes from the N.W. - Day very fine with a little hard snow. Fied M. temperature at 300 fm. Reported several patches of seaweed.

25th

Lat. $62^{\circ}10'$ - Long $170^{\circ}24'$ - Air 34° - 37.5 - Sea 3rd lower. Bar. F. 29.624 - 28.612 . Gloomy raining & snowing wind strong S.W. from 4 PM. - Have to a gloomy Christmas the like we have not in our other winter it more than counterbalanceing comfort. Spent a very pleasant evening in the gun room where all the officers were assembled.

26th

Lat. $63^{\circ}3'48''$ - Long $172^{\circ}47'53''$ - Air 35° - 38.5 - Sea 2nd lower. Bar. F. 29.547 - 28.562 . Heavy mist & W. winds (5) with much & heavy weather.

27th

Lat. $63^{\circ}43'25''$ - Long $173^{\circ}46'45''$ - Air 35 - 38 - Sea 1st - 3rd lower - Bar. R. 28.567 - 29.044 . Equally but dry weather Wind rising with the thermometer showing a heavy bar. fell (9) - Hazy for the first time.

28th

Lat. $64^{\circ}45'$ - Long $174^{\circ}45'$ - Air 38.5 - 38 - Sea 2nd lower. Bar. F. 29.547 - 28.907 . More moderate. Wind N.W. in morning draws round to the E. (1-4) with power. Fied Temp. of water in 400 fm. - Saw a School of Whales & for the first time an Iceberg, a most magnificent flat-topped mass of ice about 160 ft high & 1/2 a mile long. The night was very fine & we soon saw several. Several stars were seen as large as the sun first seen.



26th 30th reaching the bottom - line broke
in hauling up

24th Lat. 65° 28' - Long. 28° 38' - Air 28° - Sea 28° - Bar. 28.933 - 29.001
 Light N.E. wind with passing weather in the evening the bar rises & wind changes to N.E. with snow. I shot 3 seals many Seals & saw numerous sperm whales. For the net on board I was surprised to find a species of *Lernaeina* CCXII. very common of a very black brown color. Also numerous small pieces of a old seal's skin. Crust. in 212 - Bivalves a shrimp 213 - *Gammarus* 214 - *Isopoda* 215 - A large mackerel caught in the net. Also some small crustaceans. In the morning about 1000 for the numerous seals seen.

25th Lat. 66° 36' - Long. 28° 0' - Air 28° - Sea 28° - Bar. 28.912 - 28.975.
 The N.E. wind with much snow. Snow covered the West with clear weather & again a thin N.E. wind with more snow. Killing many Seals & saw a pup & sizes & many whales. - Had camp of water at 800 fm. - Left with the ice in 3rd better to try the report with 200 fm. of strands of whale line, 700 fm. of wire from open gear & 500 of 4th from open gear. Observed soundings in 1500 fm. In the evening saw some whales & at night a beautiful white Petrel perhaps the Snow Bird of Weddell.

26th Lat. 66° 32' - Long. 27° 49' - Air 27° - Sea 28° - Bar. 28.895 - 29.009.
 Wind shifted: the morning was N.E. with snow changes with the bar rising to N.E. with beautiful & clear weather & light breezes. Numerous Whales, much Ice. White Petrel & whales. Upper limit of ice above horizon at midnight.

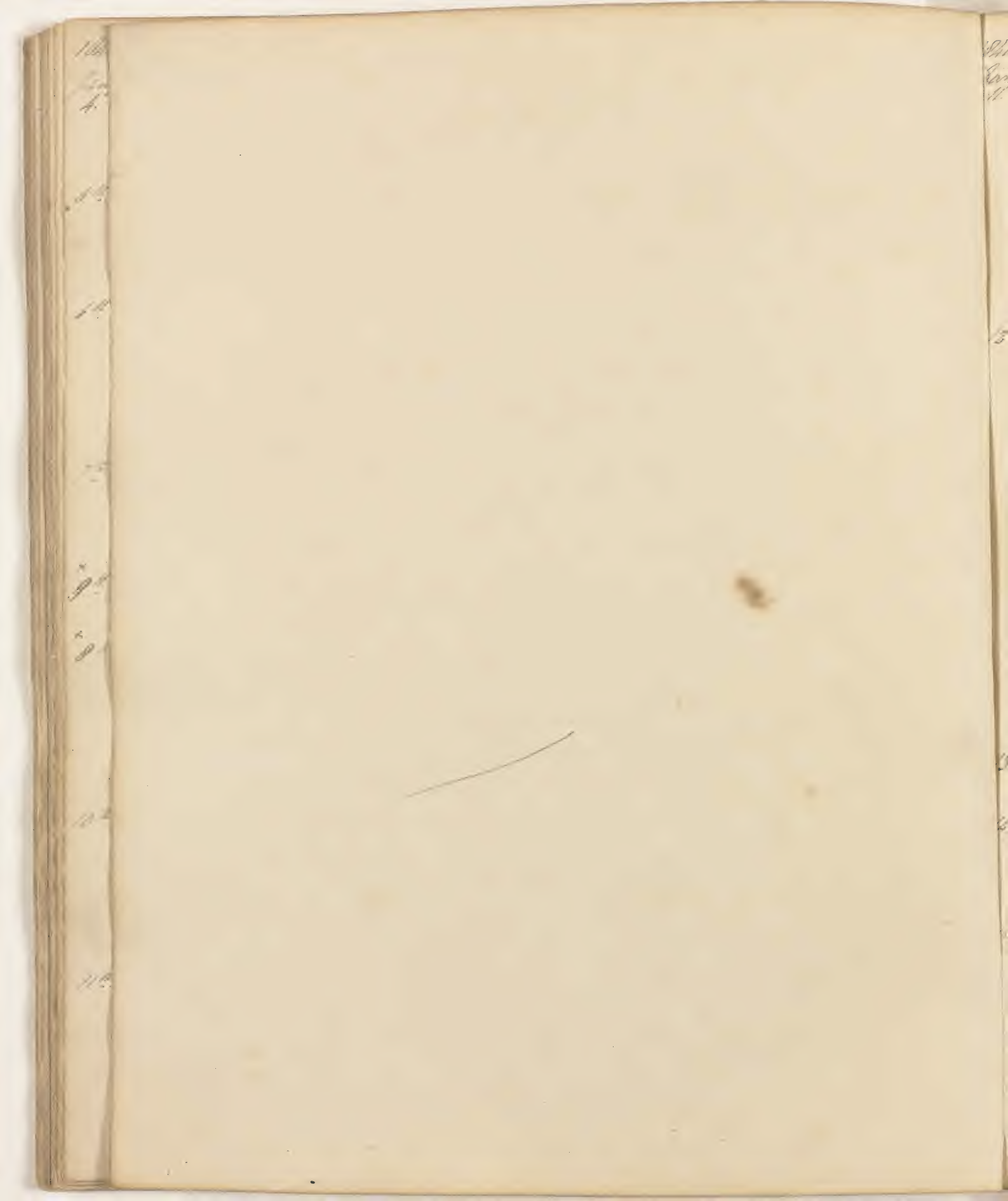
27th Lat. 66° 20' - Long. 27° 25' - Air 27° - Sea 28° - Bar. 28.886 - 29.001.
 Light N.E. air in the morning with snow changes to N.W. with fine weather. Entered the antarctic circle with falling weather & the first day of the year. Near March drift ice with Seals, whales, Penguins & White Petrel. Got the crew's meat up to the fore & mainmast beams - Dined with the Captain.

28th Lat. 66° 20' - Long. 27° 14' - Air 26° - Sea 27° - Bar. 28.886 - 29.001.
 Light N.E. wind in the morning change to E.N.E. with snow & falling bar. Many Seals & much snow. Ice. Whales & Petrel (white) also some of the mackerel. Long necked black bird found at Camp at 1000 fm. Saw some seals on the shore ice - Captain went in pursuit of Seal. saw a copy of a white seal brought some white Petrel in board. - In the morning saw a considerable bag with some black bark attached to it - Was Smith went to examine it. It proved to be a black volcanic rock with Horn like sharp teeth in it. The bag would have weighed many lbs. A strong appearance of land in N.E.

29th Lat. 65° 32' - Long. 27° 42' - Air 27° - Sea 28° - Bar. 28.829 - 28.898.
 Wind to N.E. but in morning with Rain - Light clearing air. I once caught land in the night - with some snow (2-5). Many ice white seals seen.

- 4th Lat. 65° 21' 14" Long. 172° 29' 41" Air 30-31.5 Sea 29.5-31 Bar 28.523-29.181.
 Clear rising in morning with wind from NW-NW. with much snow.
 Again to S & SW with clear weather at 9 AM. At 10 AM. 23° in S 40.2. at 11 AM.
 Much Ice Whales, Seals & Petrels.
- 5th Lat. 66° 51' 16" Long. 174° 31' Air 29-31 Sea 29 Bar. Falling 29.100-20.014.
 Fine weather with strong S.W. & W.S.W. breezes (5). Saw many Penguins &
 Seals, this Penguin was new to us. has a short black girdle and eyes
 & is of a hoary look. They are very common on the sea.
- 6th Lat. 68° 17' 24" Long. 175° 21' Air 25-34.5 Sea 26-30 Bar. Rising 28.797-28.922
 Light N.W. winds with beautiful weather - (Entered the loose ice at 8 AM.
 driving the ship through the loose masses & sucking out lanes of water
 to avoid the streams of ice) Many penguins & Seals on the sea.
 Being 12th Day upwind - the cabin to launch the cake given us it in
 opened & the ice on this occasion - Capt. Rogers came on board.
- 7th Lat. 68° 31' Long. 175° 49' Air 29.5-35 Sea 28.5-32 Bar. Rising 28.922-29.073
 Fine mostly all day being a little lake among the drift ice which
 bounds the horizon every where. Seals Penguins & White Petrels.
 Whales went to observe on the drift ice.
- 8th Lat. 69° 15' 30" Long. 176° 13' 45" Air 28.5-30.5 Sea 28.5-29 Bar. Falling 29.045-28.846.
 Strong E.N.E. gales (7) with the bar falling & much snow.
- 9th Lat. 68° 28' 29" Long. 176° 21' 42" Air 27.5-31.3 Bar. 29.070-29.179-29.275
 Another calm & beautiful day. - Put the last seal on ice & caught a
 small white fish about 1 inch long & 1/2 inch high in a boat by the (fish) some
 interesting specimens of the Limniscus (2107 & 2108) & a curious lay.
 showing of a genus near Bygonia but having the vertical plate of the tail
 entire with two small lateral processes near the extremity.
- 10th Lat. 70° 23' 16" Long. 173° 48' Air 28-31 Sea 28.5-29.5 Bar. 28.553-29.349
 Wind S.W. (7) with snow moderating with the rising bar & blowing to NW & N
 Whales, white Petrels & many to the latter completely matted probably
 immature birds. - Penguins - the bar apparently cleared the great snow
 of ice which for the last few days since the 6th has consisted of flat broken
 pieces from a yard to 2 or 30 yds square elevated 1/2 a foot above the water.
- 11th Lat. 71° 14' 35" Long. 171° 15' Air 29-30.5 Sea 29-32.5 Bar. 29.316-29.386.
 Very fine with the wind N. & N.W. a beautiful clear day. Whales petrels
 penguins & Seals again & Penguins to. - In day we have beaten back
 a number of considerable reefs with cold of us.
 At 2:30 AM commences an Arctic old covering by making some snow
 topped mountain seen at an enormous distance land.
 At the entrance of Louis F. S. & S.W. - Whales the bar commencing a
 of numerous mountains all of which are formed into cones & pyramids

5th. Entered the park



of an immense bright cloud with snow except a very few places where some brown clouds showed that the land was too deep for the snow to cover it. - Passed some survivors long floating whitish bodies, as the day was fine a boat was lowered & one was picked up it was about 23 ft long like a serpent, about 1 inch in diam, round, & spotted all over, formed of a firm jelly like substance filled with dark spots, color very light green, either an aggregate animal or a spawn of some kind. - 6.30 PM rounded 165 fathoms small black stones. A line of pack ice extends from N.W. - S.W. & about 1/2 mile to break the deep.

17th Lat. 71° 49' Long. 170° 52' Air 29°-31° - Sea 29°-30° Bar. 29.372 - 29.128.
 gloomy weather with a little rain wind with the bar falling shifts from S.W. - W. & N.E. & back again in light breezes. - Saw numerous seals & Pinnipeds whales Pinnipeds large & white pinnipeds also numerous & large of considerable size. - Saw several of small islands lying to the S.E. of the main one several small islands up among them which mostly resembled an islet - Capt. left the ship & ascended one of the islands, landing with considerable difficulty on one small one after staying a few minutes landed with loads of specimens of Musculi & trap took with several others. He also a very little Pyrosoma. - The Pinnipeds were immensely numerous & also pinnipeds proper. The rocks in some places were feet and the ship like light grey slopes of sand on the black rocks. - Rounded about 1/2 mile off the islands in small black stones & ice.

18th Lat. 72° 6' 38" Long. 172° 19' Air 28.5 - 30 Sea 29.5 - 30 Bar. 29.110 - 28.758.
 V.B. wind with a little rain & snow (6) Phenomena as on the 12th.

19th Lat. 71° 50' 36" Long. 172° 40' Air 28°-30.5 Sea 29° 31.5 Bar. 28.764 - 28.940.
 Wind S.E. & with much snow falling with the rest of the snow.

Pass numbers of Whales & Pinnipeds also large & white seals. What the Pinnipeds are I do not know? It is larger than the one seen on the 12th & 13th.
 20th Lat. 71° 55' 38" Long. 173° 55' 35" Air 28.5 & 31 Sea 29° 30.5 Bar. 29.003 - 29.148.
 Wind S. & S.W. & S.W. with a beautiful clear sky. - Still off the immense track of land that seems to lead to the same way to the northward. - A curious small island to the southward of the group is just watered with ice each. - At 10 PM we were 50 miles from the land to the southward of us which presented a splendid appearance - Just above the water edge the snow, ice, & ice were seen covered with an immense track of broken clouds each tinged by golden color by the setting sun above them were the enormous high peaks of snow towering up against

a beautifully clear blue sky above which was another canopy of dark descending clouds their lower edges of a bright golden red when it was one of the most gorgeous sights I ever witnessed & called to my mind the descriptions of the Himalayas & Andes. Two peaks & particular were very conspicuous, one rising into a sharp pinnacle to a computed height of 11,000 ft & the other ft split at the top into two peaks they were far distant from one another but between them were numerous other cones split or jagged & looking so one long line from N. 20 E to N. 65 W. attempted to sketch it.

16th Lat. 72° 12' Long. 172° 19' Air. 27-29.5 Sea 27-28.5 Bar. 29.126-101. Strong N.W. gales (5-7) during the whole of the day with clear sea & weather. Many Cape pigeons & White Petrels, seen as usual. Sketched the Islands.

17th Lat. 72° 0' 57" Long. 173° 45' Air. 26.5-31.5 Sea 27.5-29 Bar. 29.041-29.157. Wind shifts to S.W. (3) with the bar rising - S.E. in morning with S.W. Saw large flocks of Cape pigeons flying high & southward.

18th Lat. 72° 56' 19" Long. 174° 5' 57" Air. 28.5-31 Sea 28-29 Bar. 29.157-29.251. Moderate weather with S.W. & E. winds. Many flocks of Cape pigeons. 2 P.M. sounded in 230 fm. the lead brought up a small *Pycnogonum*. 4 P.M. sounded in 190 fm. 11.45 P.M. sounded in 180 fm. Saw *Therapsid* shells.

19th Lat. 72° 31' 35" Long. 175° 59' Air. 28.5-36 Sea 27.5-32 Bar. 29.249-29.156. A beautifully calm sea, strong afternoon after a S.W. wind (3). Saw a shoal of *Grampus* many penguins & Cape pigeons also 2 seals. A large round topped Island is lying just ahead of us, more low of land than any land I have hitherto seen. Sounded in 270 fm. broken shells & corals. Sounded in 300 fm. & brought up. *Pycnogonum* 2 small sp. *Gammarus* 1. *Idotea* 1. *Univalves* & *Bivalves* 3. *Scaphula*, *Corals* *Therapsid* *Micellaria* 12. *Medusa* of *Lept. & Cyanea* amounting to 1/4 of the whole. *Plutea*. *Siphonura* & *Hydromedusa*. A large fresh snap of *Cyanea* which had some animals growing from a fresh fractured surface & must have been lately deposited by an iceberg. One red coral was particularly handsome.

20th Lat. 73° 47' Long. 176° 50' Air. 27.5-31.5 Sea 28.5-30.5 Bar. 29.132-28.948. Wind shifts from N.W. to S.W. to E.S.W. with the barometer falling. misty & hazy. Many white Petrels Cape pigeons & a seal. Saw a Cape pigeon strike, instant catch a fish, several penguins. A line of ice extending from N.E. to S.W. Sounded in 320 fm. the bottom brought up an *Idotea*.

21st Lat. 74° 0' Long. 178° 43' Air. 28-34.2 Sea 27.2-29 Bar. 28.959-29.090. Wind remains easterly with light breeze & gloomy weather clear up in the night when at 11.30 P.M. the sea was strewn with green spruce - about 3' above the surface. The first was of an *Idotea* which the beam discovered the sea smooth again. 2.20 P.M. sounded in 260 fm. *Idotea* shells.

between the base of the cliff & the sea. The roll of the sea if once
 once becoming the bound but should this ever become the case they
 will become the nucleus for an iceberg which will extend itself until
 its size is so disproportionate to its attachment that it will be washed
 away & carry out to sea not only the bed of gravel that was its nucleus
 but all the debris of the cliff that formed the original gravel beach.
 in its substance is then gradually to disintegrate & drop these fragments
 over immense tracts of submarine land or to be stranded on a shore
 & form a bed of gravel perhaps deposited on the rock on which it lies
 between the cliff presented to the sea & the commencement of the
 hill of which the island there exists a narrow ^{level} ~~shallow~~ valley about
 150 feet above the sea parallel to it & skirting the coast inside the
 Barrier cliff. The valley may be 20-30 feet deep the ~~ground~~ slope of it is
 more regular than that of the slope inward from the sea & which presents
 a series of singular prominences or broken walls. The bottom of the valley is filled
 with snow & masses of ice which roll into it from the slope above & get piled
 up against the parapet. The expansive force of the ice & the weight of
 the snow & must soon then detach large masses of this water &
 precipitating them into the fields & bays ^{which} afford a means of transport
 for ice into bays & rivers. Some rocks lie in several places off the shore
 & form the nuclei for bays which must often be deluged with portions
 of their nucleus - the slope about 150 feet above the sea sloping down
 from the upper ledge through a break in the parapet is covered with
 frozen snow presenting the appearance of innumerable little fields
 about 1-4 ft high of a black & white color this is apparently a
 gravel bed held in its place by the ice binding it to that of the bank
 from which it slopes a very slight thaw would break the connection
 & precipitate into the deep water below a mass of frozen snow & pebbles
 Along the coast there is an immense quantity of ice & the shape
 of small bays & fields floating or stranded, many of them are covered with
 pebbles & gravel & others contain large rocks like the bank in above
 the coast is more or less discolored some being containing boulders of
 stone lying on their tops, one of which is pointed off above to the east
 and is a large one along the coast but there is a constant deposit
 along the whole coast of ice & gravel but all over the coast is a
 mass of ice & gravel - the ice is in two layers the lower is a
 thin & lamellar film in the interval of the year the top of it
 is a thick solid mass of ice & gravel which is the nucleus of the ice



P. H. J.

11

St. Louis

St. Louis



P. H. J.

P. H. J.

At night 8 small Islands were counted within sight.

286
Lost 75 - Long 109 25. 50 - Lat 23.7 - 29. - Sea 285 - 32. Bar. 28.999 - 28.1 - 957.
The wind with both westerly winds. Saw many Porpoises while Peter & I
driving. (Probably 3 ft. by compass) for an island apparently 15 miles
long with 2 miles upon it more elevated from Snow than any that we had
seen. At 8.45. Observed the smaller hills on the island bearing N^W 1/4 S. emitting
after the "snow" signified the same to us. The hills was of a volcanic form
with a very short segment of a cone at the very top apparently 1/2 a mile away
from which the smoke issued the center was bare all over of a black color
& there were many bare places on the hills though they bore no proportion
to the quantity of snow. The lowest place was nearest the top. The highest
might be 3-4000 ft. That of the higher hills to the E. of it 1000 more. It
surface was pretty even & not so covered with snow as the first land we
discovered nor so much as the higher hills which was like the second
we found the long at Loomis. & the bare faces of the cones very much visible.
It ended in a sharp peak covered to the top in most of its surface with snow
but on its eastern slope it rose down to a black gap there was
very much bare with bushes. At 9.45 observed a line of peaks in
the distance from the South of the island as far as the eye could reach. The

Jan 22
(170') form of a long perfectly even flat topped water - 120' across the
Volcano emitting enormous clouds of black smoke rising perhaps
500 ft above it its margins tinged white by the sea with a distinct
red tinge for the fire below. it was a magnificent spectacle & a
much extra ordinary one - We now trimmed & commenced swimming
along the inner wall of the sea the water was & the bottom was a brown
perfectly regular even map I never could have conceived it was like
the long flat topped they are presenting an even surface to the sea
without any prominent points & very little straggling in about it. Its
height may be 120 ft so from the top of the mountain, much dead it looks as
high as from below.

(174') Lat. 77° 57' 01" Long. 184° 36' 00" Air 23.5-31 Sea 27.5-31 Bar. 28.950-28.993

(178') Swimming along the side of the volcano being by compass - it seems
N. 2 E by compass as far as the eye can reach is one uniform brown, browned
map every yard of it like the preceding & following even & regular
Saw several Cape pigeons White Petrel Storm Petrel & Brown gulls.

28th Lat. 77° 2' - Long. 189° 6' - Air 26-29 - Sea 29.5-31 Bar. 28.991-28.992

(181') Wind at 29 kts (4) with much snow & squalls. Lost sight of the volcano
Saw several whales (black) & white petrel.

31st Lat. 77° 5' - Long. 189° 6' - Air 19.5-26 - Sea 28.5-30.5 Bar. 28.911-28.906

(184') Wind S, 26 kts. & South again (3 kts) with clearer weather. Saw many fish
& passed through many streams of sea. Whales & white petrel about
Saw an immense being Penguin upon the ice - Permeated in 300 ft. mud -
Caught a seal apparently the *Phoca leptonyx*, it was obviously spotted - the
guts were full of red shrimp

February

1st Lat. 77° 4' 0" Long. 188° 27' Air 19.5-34 - Sea. 28.5-32.5 Bar. 29.025-084

(91') Light breeze & very fine weather Wind S by S 4. Many whales - white petrel
Cape pigeons & brown gulls. Permeated & tried the temperature of the sea at
250 ft. green mud & small stones.

2nd Long. 77° 45' Long. 187° 0' Air 24.5-31.5 Sea 29-31.5 Bar. 29.095-29.260

Barometer rising as wind came round from S 2 E by North calm & wind

4th Same phenomenon as yesterday with a Penguin - Permeated in 200 ft. mud & dry

Swimming along much ice. Plenty of N. 2 E & the barometer is high

3rd Lat. 77° 17' 00" Long. 185° 27' 28" Air 23-29 Sea 29.5-30.5 Bar. 29.232-28.888

34th Wind at 10 kts (2) (N. 2 E) (4) glistening & squally - Saw phenomenon
with a seal.

4th Lat. 77° 0' Long. 195° 29' Air 15-23.5 Sea 28.5-29 Bar. 28.932-28.900

10th S.E. winds 2 & 5 with gloomy weather - Swimming through thick ice & saw
Saw many seals penguins & fishings, whales, white, & Cape petrel

July 2nd

At 9.15 hove to and sounded in 260 fm. mud in traces of Marine Pl. & M. L.
near part 5 layers. Lat. 2. 48. 3. 6 one farthest South. Long.

July 7. Took two specimens of a fine new Warre (drawn) discovered in spirit. 9.

February
1841

At Sea

132

- 5th Lat. 77. 12.33 Long 192. 48.18. Air 13.5-16.5. Sea 28-29.5. Barom. 28.908-969.
SSE winds (3) with misty weather. Saw the usual assortment of birds & mammals. The first mammal hitherto seen is the snow-thrush or Ptarmigan of the white variety. They seem like a small fish-head - keeping in a pool of water like a large, round, swimming snail - as far as the eye could reach by ice. Three of the very
Penguins were caught today for the first time, they are very fine birds indeed much larger than the King's penguins. Land ones & thicker built though the ones taken are much the same. Two of them weighed 66 lbs & the other 57 lbs. - At 8.15 am went
wasps & made fast to about half an acre of ice from which lumps were taken
is watering the ship. As all hands were employed about it, it was a very amusing
sight.
- 6th Lat. 77. 12.55 Long 188. 22.0. Air 14-23 Sea 28.5-29.5. Barom. 28.979-29.076.
SSE winds (3, 4, 5) clear weather with blue sky. - Saw the usual animals & birds.
- 7th Lat. 77. 1.21 Long 186. 35. Air 19-29. Sea 29-30. Barom. 29.077-29.245.
SSE & light NNE winds with fine weather. Running through much ice.
- 8th Lat. 77. 39.4 Long 187. 5.20. Air 23-31.5 Sea 28-31.5. Barom. 29.238-29.263.
Wind shifted to E - At 11.15 light breezes with clear weather. - Saw a bay with ice.
5 PM observed the barrier SSE - 1 PM surrounded in 180 ft. wind. - Between
9 & 12 PM sailing among newly formed pancake ice between a pack of the barrier.
The barrier ice consists of pieces about 1 ft to 2 ft thick & about 1/4 to 1/2 ft apart. -
This morning I have generally captured edges from their grinding together.
- 9th Lat. 77. 56.20 Long 190. 15. Air 16.0-28.0 Sea 28.29.5. Barom. 29.267-29.1.
NNE & light winds with mist & fog. - Saw quantities of Finns whales in the morning
ice. Then into a small bay formed by the barrier & ice within 1/4 of a mile
from it - a very grand sight. it proved to be 1/2 mi. high. - All day drifting
through much ice.
- 10th Lat. 77. 32. Long 186. 48. Air 14.5-27. Sea 28-29.5. Barom. 29.274-29.438.
NNE & light breezes with overcast & gloomy weather. - Running along a line of
back & loose ice drifting through quantities of loose ice & among many bays.
- 11th Lat. 76. 11.0 Long 187. 51. Air 18-22 Sea 28-29.5. Barom. 29.528-28.166.
Wind shifted to E (5, 6, 7) with overcast gloomy weather & snow. Running along pack ice
through streams of loose & loose cake ice. -
- 12th Lat. 76. 31. Long 184. 56. Air 20.5-26. Sea 28.5-29.5. Barom. 29.125-28.877.
Wind shifted to E (7) with overcast gloomy weather with snow, drifting among loose ice
& through bays. - Same to.
- 13th Lat. 76. 56. Long 183. 16. Air 26-31. Sea 29-30.5. Barom. 28.534-28.284.
NNE & light winds all the day, drifting through much loose ice. - Same to.
- 14th Lat. 76. 22. 03 Long 180. 15. Air 29-33 Sea 30-31. Barom. 28.403-28.847.
Wind the same but moderate with much snow. Saw in addition to the usual
animals & birds, a brown mottled sheep for the first time almost since entering the sea.
- 15th Lat. 76. 2. 11. Long 170. 15. Air 26-28 Sea 28-30. Barom. 28.852-29.177.
Easterly winds (5) with gloomy weather & snow. Drifting through much loose & loose ice.

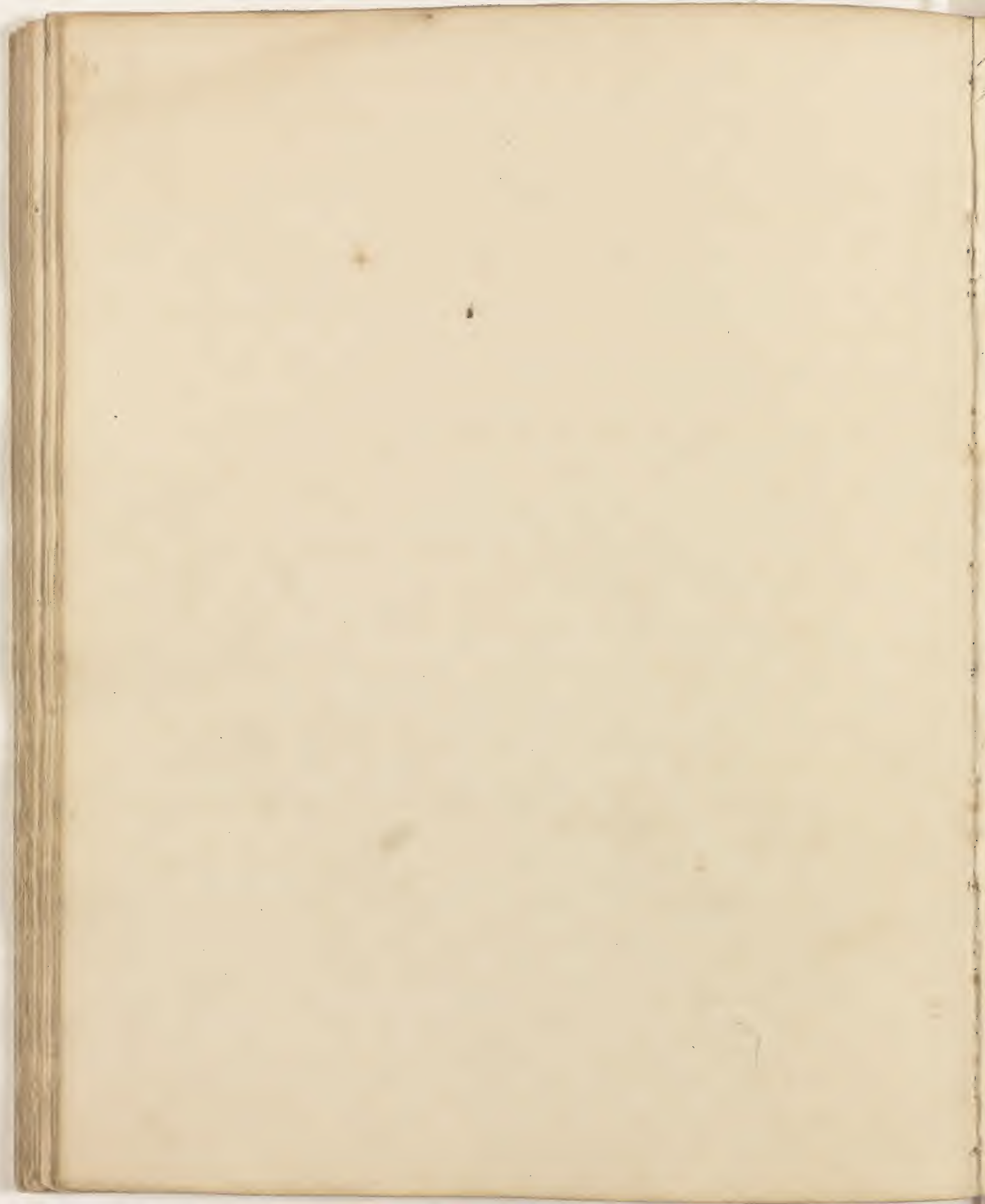
1847.

At Sea.

The Island on which we landed on Aug. 11th was again seen to day, with 5 miles at 3.30 PM. When some things were obtained in 50 fms. water & again at 11 fms. 380 fms. day & night. - South of the sea was seen to day a light brown color, when deposited in water it deposited a very fine sediment composed of 1/2 in. long by minute brown, acute, flat, angular flakes each formed of numerous parallel prisms of a perfectly regular form & giving each flake a flat, iridescent, numerous circular discs when viewed under a microscope. They were very minutely subcircular & had often a gray center. - All the green sea was very full of it, when lifted out of the water it did not appear thin or fine, many were seen under the microscope at a distance considerable from the surface & probably associated with the Pollen.

Lat. 76. 32. 3 Long. 156. 12. Air 36-32. Sea 28-29.5. Bar. 29.151-29.210. Calms & very light breeze from all quarters. Sailing through much ice. The appearance of the sea covered with young ice is very curious especially when very small exhibits the immense white solid field that extends as far as the eye can reach all around. Very many seals were seen & a school of young whales in some open water. At 10 PM. arrived in 360 fms. from shore. Mt. Erebus is very plain, consisting of two immense volcanoes, one to the south & one to the north above the mouth of the Coast. The land of course remains the same as the appearance suggested the land was & then falls away for an immense number of miles to the westward.

Lat. 76. 35. Long. 155. 21. Air 35.5-29.5. Sea 28-29. Bar. 29.157-29.158. At. Wind W. with gloomy weather. At. Wind E. fine clear weather. Sailing through much ice & young ice along the edge of a fresh ice. The land was this morning also covered with young ice. Mt. Erebus with the main land & forming a deep bright field of ice that presents our view on the south. May matter pole which without doubt may be considered to be in Lat. 75.49 & Long. 157. 39 the greatest dip hitherto obtained being 28.45. The variation is & has been for weeks by very large that combined with the deviation it was found & the strength of the compass it is quite puzzling. I know about where the ship is staying. We are now to the southward of what may be considered as our present position further South & 3.45 further than any human creation has penetrated & 600 miles beyond the limits of the tracks of ships of any other nation. Since the days of Cook & 17 years past it could be proved to measure the pole through the French & American came both have attempted it the former on two occasions, first by De La Roche's track & then by our present one stating as their reason "because they have the long boat with the crew & attempt it in their longitude" they have been well served for their pains & discovered no better from their obviously attempts to maintain the same position. The contradictory accounts of their voyage speaks for itself suffice it to say that we have some controversy the latter is the only one that has been in the land & the only one that has been in the land.



Feb. 18th Lat. 76. 5. 30 Long 166. 11. 30 Air 21.5-23- Sea 28-30 Barom. 29.048-28.907

11th Light variable winds & very fine weather. Rain through much slush. Franklin Sea. Seals are very numerous on the banks of the bay among the slush, as many as 20 were counted yesterday above some water are very clean. A fine seal was

Leptonychys 12th was taken this morning, he was very thickly spotted with large yellow blotches on the back & sides. Mammals & birds in sea all day visiting banks at no immense distance. A small interval of clearing, was recorded the day & some stars were seen at night near the zenith.

14th Lat. 76. 5. 20 Long 168. 44. 39. Air 21. 20 Sea 28. 29.5 Barom. 29.046-28.977

Muddy & foggy morning northward true in sight of the coast with gloomy weather. 9.45. Passed the small cluster of hills beyond of the N.E. point of the continent where we have now traced to sea in a continuous line from Lat 71. 30. to 78. 30. where it joins on a low sea barrier which runs to the Eastward and which we traced for miles.

20th Lat. 73. 9. 29 Long 171. 26. Air 21-24 Sea 28.5-29.5 Barom. 28.816-29.057.

Continuing to the Northward true with a head S.W. gale (fog compass). Clearing the coast & continent. Wind S.

21st Lat. 71. 5. Long 169. 58. Air 23-26 Sea 28.5-29.5 Barom. 29.067-28.870.

Still running on with partly wind & gloomy weather along a coast line marked by very high steep mountains & numerous bays. Some small seals near the coast. None to be sight for the thick weather. 22 large sealings counted.

22nd Lat. 70. 27. 0 Long 166. 40. Air 22. 5-25.5 Sea 28.5-29.7 Bar. 28.646-28.482.

Clear to all day with light wind & squalls seas & snow as usual. Thick weather. A partial clearing & seals seen 28. Still like N.E. W. S.E. S.W. Whipping flocks of sea. The snow through thick falls. Beautiful stars & planets. Saw several Penguins & Storm Petrel.

23rd Lat. 70. 17. Long 167. 22 Air 22-24.5 Sea 28.5-29.5 Barom. 28.543-28.764.

Gloomy weather with light N.E. & S.W. winds with much snow. Passing through much ice in sight of the land. Many icebergs. Saw Penguins White Petrel Stormy do & brown gulls. 1.20 skinned in 200 ft. sand.

24th Lat. 70. 14. 39. Long 167. 34. 30. Air 20.2-27.5 Sea 28.5-29.5 Barom. 28.667-562.

Strong N.E. breeze (5-16) with fine weather. Numerous bays of ice along the land which is very high & mountainous. Many floating bergs with much ice. Saw a small & spotted whale. Cape pigeon. Stormy do & brown gulls. Sky has some stars & a planet near the zenith.

25th Lat. 70. 16. 28. Long 167. 26. 30. Air 18.5-25 Sea 28.5-29.5 Barom. 28.529-777.

Strong North gale (6-7) in the morning shifting to S.E. & S. with snow in the evening. Still of the land with the same phenomena as before.

26th Lat. 69. 52. 20. Long 168. 9. 8. Air 32-31 Sea 29-29.5 Barom. 28.413-487-175.

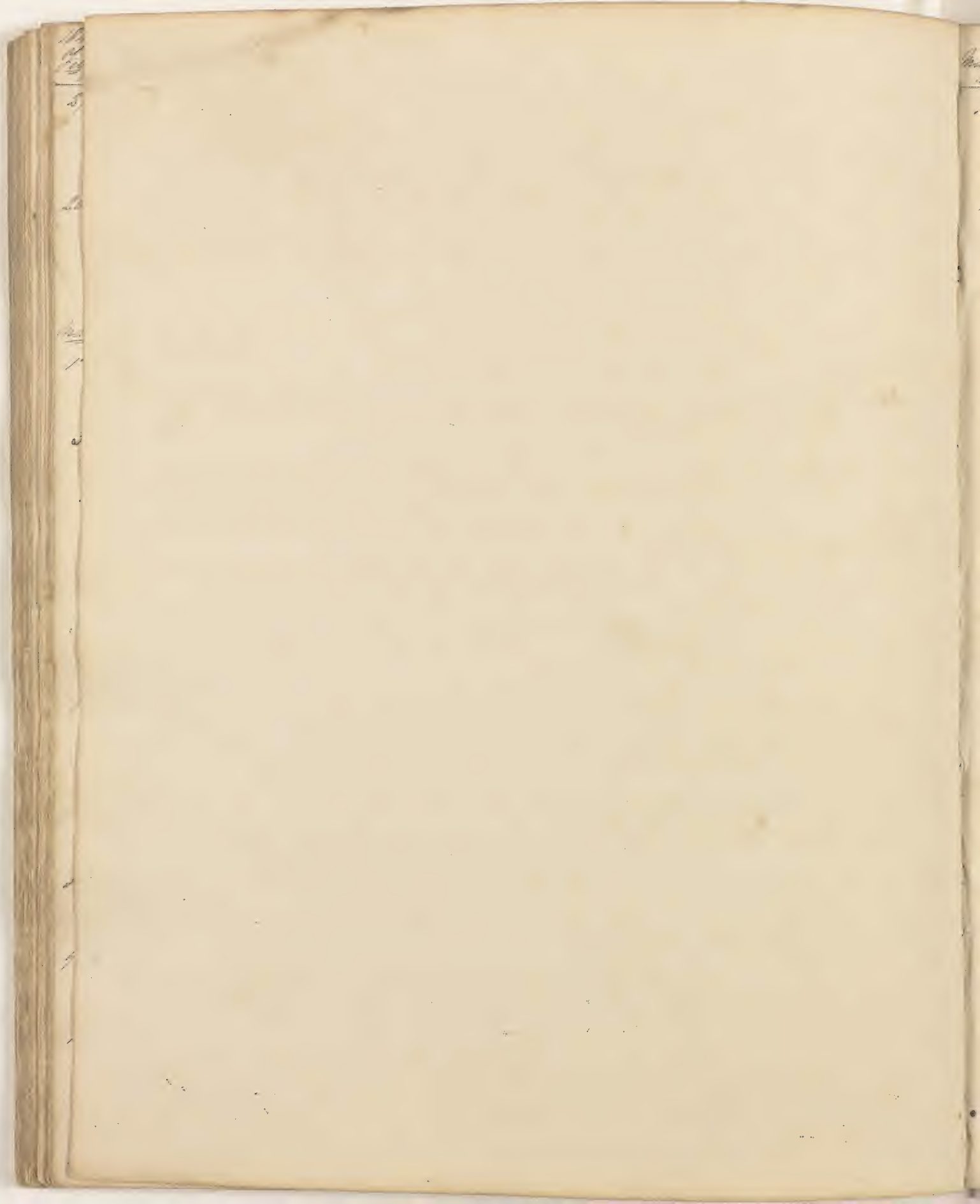
Strong North gale in the morning with the falling & much snow. The shifting to S.E. with the wind rising light winds & snow. Was falling again at night. Saw many seals, blue, stormy & a large brown Petrel. A blackish Labrador & Finns whale. - heard the

St. Sea.

- 2nd Lat. 59. 23. 52. Long. 167. 55. 30. Air 15-29. Sea 28.5-29. Bar. 29.870-29.900
 Ice rising with partly cloudy & sunny. Snow and change to W. & clear
 & more moderate westerly gale at night. Sailing through young ice. Saw many
 Cape, Stormy & a large Petrel - several Albatrosses brown gulls & a Common Br. hake
- 28th Lat. 59. 56. 39. Long. 167. 36. 10. Air 14-26. Sea 20.2-29.5. Bar. 29.692-962.
 Strong N. & S. gale (67) all day with clear weather - Last sight of the land this afternoon
 standing to the Northward along a heavy pack with snow bergs in it
 Saw many Cape & White Petrel - at 11.30 the Aurora made a beautiful display &
 March the Northward.
- 1st Lat. 69. 4. 24" Long. 167. 14' Air. 19.5-22. Sea 28-29. Barom. 29.794-29.850
 No breeze with snow in the morning. Still off the pack with much ice about. Saw
 many Cape penguins & a whale. Saw an appearance of land N. & S. by compass.
- 3rd Lat. 67. 32. 14. Long. 167. 1. Air 11.7-15.5. Sea 28-29. Barom. 29.666-854.
 Moving along the pack through much ice. Saw many Whales & Petrel.
- 4th Lat. 66. 43. 38 Long. 165. 45. Air 14-27. Sea 28-28.5. Barom 29.472-984.
 Was falling in the forenoon to strong N. & wind with snow; rising in afternoon to S. & S. gale
 with more snow. - Saw an Island from S. 23. N. to S. 24. S. 24-30 miles off. Sailing through
 heavy ice with a heavy sea & many Icebergs. Ship then saw the Aurora & saw
 many Petrel. Longman. but the Antarctic circle.
- 5th Lat. 65. 33. 43 Long. 167. 47. 17 Air 23.5-26. Sea 28.5-30. Barom 29.709-989.
 Strong winds with fine weather sailing much ice & bergs. - Saw many Whales
 Cape penguins brown gulls & blue petrel. At 9 P.M. a very fine Aurora.
- 6th Lat. 65. 50. 31. Long 164. 45. 13 Air 24.5-31. Sea 28.5-29. Barom. 29.956-9901-
 Light & wind & calms shifting at night with falling bar. to North with snow. 28.871.
 Many Whales Cape penguin, white & blue petrel, brown gulls & penguin - few birds.
 Sailed over the E. extreme of the Gambier land no windings over it a 600 fm.
- 7th Lat. 65. 29. 32. Long 162. 15. Air 24-32. Sea 28.5-29. Bar. 29.752-29.828
 N. & S. breezes with the bar falling but rising again to S. & S. winds - saw much
 ice & many Icebergs - a faint Aurora at 10 pm.
- 8th Lat. 64. 37. 50 Long 162. 54. 15. Air 22.6-32.5 Sea. 28.5-31. Barom 29.87-28.92
 N. & S. winds with much snow - sailing through young & stream ice. Saw
 several Whales & Penguin - a fine Petrel.
- 9th Lat. 64. 20. 53 Long. 164. 32. Air 30.5-33. Sea. 30-31. Barom. 29.881-815.
 North winds & snow all the forenoon - several blue petrel & shoal of porpoises
 a few min. & several brown gulls & whales.
- 10th Lat. 64. 5. Long 163. 17. 0 Air 30.5-31.5. Sea 29. 30.5. Bar. 29.536-682.
 North gales with snow - many Cape penguins blue petrel & a black Albatross
 some Icebergs
- 11th Lat. 64. 3. 20 Long 163. 12. 11 Air 28-32.5 Sea 29-31. Barom. 29.807-588.
 N. & S. winds with snow. Many Whales Cape penguin small & black Albatross
 with a few Icebergs.

- 1st At 1.45 saw a very bright Aurora - all day passing through streams of ice & snow
 ice. Saw several white patches of ice.
- 2nd Lat. 68° 23' Long. 168° 5' 18" Air 16.5 - 27. Sea 20-29 - Barom 29.791-560.
- 3rd Saw Ballen's Island

Appearance of land 20th. H. H. to S. H. & W.



- 12th Lat. 61. 12. 2 Long. 161. 28. 10 Air 25-33 Sea 20-29.5 Barom. 29.566-28.492.
Wind N.W. Snowing light with snow & gloomy weather - Killed some sea & saw several large
saw 2 spotted finnae Whales - several Cape Pigeons small albatross & blue petrel.
A faint aurora.
- 13th Lat. 63. 28. Long. 159. 35. Air 25-32. Sea 28-32. Barom. 28.500-29.211.
The gale in the morning with snow shifted to S.W. with gloomy weather
During the day again saw a white petrel many Cape pigeon & another bird
perhaps their young of which many were caught.
- 14th Lat. 62. 41. 33 Long. 156. 59 Air 26.5-30. Sea 29-30.5. Barom. 29.231-538
S.W. winds with gloomy weather - several birds in sight saw 2 white petrel.
- 15th Lat. 64. 0. 38 Long. 155. 53. Air 21-32. Sea 28-31. Bar. 29.263-28.818.
Large flocks Cape pigeons, blue petrel snow all morning with N.W. winds. Cloudy
afternoon with S.W. winds.
- 16th Lat. 65. 40. 11 Long. 154. 40 Air 20.5-23 Sea 28-29. Barom. 29.222-964
light breeze with gloomy weather. Some sea & many whales & birds 1 white petrel.
- 17th Lat. 66. 31. 30 Long. 152. 58 Air 21.5-25. Sea 28-29. Barom. 29.249-29.402.
N.E. winds with snow all the morning shifting to S.W. with gloomy weather
Made the pack again much faster. saw Cape sea, birds & - saw seal black albatross
blue petrel Cape pigeons. 11 pm a pale white aurora.
- 18th Lat. 63. 51. 0 Long. 151. 17 Air 24. 31.5 Sea 29. 31.5. Barom. 28.975-29.144
Calms & variable winds gloomy weather.
- 19th Lat. 64. 21. 30 Long. 148. 36 Air 21-30.5- Sea 28-31. Barom. 29.061-28.716.
N.E. & S.E. winds with much snow all the morning clearing in the afternoon
blowing harder (6) - At 12.15 P.M. saw the Aurora. Saw an albatross Cape pigeon
& a brown gull at night running along the pack through streams of young sea.
- 20th Lat. 65. 10 Long. 143. 21. Air 17.5-22.5. Sea 28.5-29.5. Bar. 28.817-29.009.
S.W. winds with gloomy weather (6). Running along the pack through much sea
many flocks whales Cape pigeons penguins & a white petrel.
- 21th Lat. 64. 7 Long. 140. 22 Air 21.5-27.5. Sea 28-30. Barom. 29.050-29.260
N.W. winds with a little snow. - a school of porpoises going to the land
several Cape pigeons brown gulls, blue petrel.
- 22th Lat. 62. 38 Long. 139. 18 Air 27-33.5. Sea 29-32.5. Barom. 29.242-28.977
Easterly winds with snow. Saw a whale & many flocks - Saw the Aurora in the
morning & a beautiful one at night.
- 23th Lat. 62. 12. Long. 136. 17. 15 Air 32-35 Sea 32-33. Barom. 28.953-29.122
light & variable winds with snow & gloomy weather - saw Porpoises
Penguins & Cape Pigeons & an sea bear. Aurora australis
at night.

March

At Sea.

- 24th Lat. 41. 11. Long. 133. 52. Air 32-34 Sea 32-34. Mar. 29. ²⁸⁵ ~~28~~ ³³² 28 452
Strong easterly wind (4) with thick weather & much snow. Saw a Pt. Lark
& dusky Albatross - No Aurora at night. No Suburbs seen to day.
- 25th Lat. 40. 22. Long 131. 28. Air 33.5-39 Sea 33.5-36. Mar. 28 464 2 726.
Light - partly wind & clearer weather - Saw many Se. Larks & flocks of
the Aurora white & yellow.
- 26th Lat. 59. 24. Long 130. 3. Air 32-37.5. Sea 34-36. Mar. 28 748-29 163
S.W. winds with gloomy weather & some snow. Saw an Lark, an
Albatross, some Ptarmigan & Cape Pigeons & the Aurora night & morning
- 27th Lat. 50. 3. Long 128. 40. Air 32-36. Sea 34.5-36. Mar. 28 819-29 223
Easterly winds with thick weather snow & rain. Saw large flocks
of Black Petrel ?? & an Aurora at night. No Suburbs.
- 28th Lat. 57. 21. Long 127. 46 Air 35.5-39. Sea 36-37 Mar. 29 238-29 736
Strong N.W. gale with thick & squally weather - At 9 AM saw a large
flock of black colored birds extending in a line over 6 or 7 miles going
to the N.E. supposed to be young of Cape Pigeon etc. At 3.15 PM saw
another flock - Faint Aurora at night. None to.
- 29th Lat. 56. 28. Long 129. 57. Air 36.5-38.5. Sea 36-38 Mar. 28 755-29 299.
Strong N.W. gale with cloudy & squally weather - Brilliant Aurora in
morning - 2 PM passed many flocks of Se. & saw several Kings - Large
flocks of young Cape Pigeons - many Stormy Petrel - Several large
schools of porpoises going N. - Observed Aurora at night.
- 30th Lat. 55. 9. Long 132. 28 Air 36.5-44 Sea 37-39 Mar. 29 335-683.
Light N.W. winds with clear weather - Aurora & falling stars in morning.
2 Sea Larks & some Pigeons - Green & Pink Aurora at night
- 31st Lat. 54. 6. Long 134. 51. Air 30-41. Sea 38-39 Mar. 29 741-458
N.E. wind (4) with gloomy misty weather - Saw an Lark & Aurora
at morning - Albatross, Petrel, Stormy Petrel, Cape Pigeons - None &
no Aurora at night.

April

- 1st Lat. 53-4. Long 135-10. Air 36-38 Sea 38-40.5. Mar. 29 451-324.
No winds with squally weather Ptarmigan in morning & Ptarmigan at noon
- 2nd Lat. 51-10. Long 136-36 Air 36.5-45 Sea 40-42.5. Mar. 29 568-326.
S.W. wind - S.E. gale (4) at night with rain. Saw Pigeons dusky & blue
Petrel & a few of Leached N.W. Pt. Sounded in 1540 fm. At 7 PM Larks 8 V6.

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- Lat. 40. 56. Long 130. 34. Air 38.5 - 42. Sea 42-47. Bar 29.327-787.
Strong southerly gale (S) with squally weather - Heavy storm & Cape Point
& Albatrop - a whale, - sawed - Running before a heavy sea all day.
- Lat. 46. 34. Long 140. 36. Air 41 - 44.7. Sea 49. - 51. Bar 29.709 - 30.145.
Blowing a strong southerly gale (S) with squally & gloomy weather
At 6.30 AM running before a very heavy sea carried away the barometer.
25 ft bottom &c - Saw luminous patches in the water. Saw Porpoises
Penguins, Albatrops, Cape pigeons &c.
- Lat. 44. 52. Long 143. 27. Air 45 - 51.5. Sea 51-56. Bar. 30.162 - 29.973.
Variable light winds with rain in morning
- Lat. 44. 1. Long 145. 57. Air 51.5 - 59. Sea 53-58 Bar. 29.942 - 445.
At 8 AM wind (S) with much rain - 10.30 AM Land seen NE 1/2 E.
6.30 AM ranged cables - I made out Mouni Island Light.
- Working up Horn May & Vincent. At 1 PM saw Iron post light - 8.45 AM
Pilot came on board - 12.10 Sir John Franklin came on board, changed ship.
3.45. Came to with 13 1/2 off post. Water moved with 50 ft on 15th the 11th AM
1.15 1/2 ft mud with 15 ft of S.E. - At 7 PM went ashore to Massalong

July

7th A.M. 6.40 weighed anchor & made sail down the Derwent upon Stoway & early we took as passengers to Sydney - J. Brown & off Sullivan Cove & his by calling in John Franklin came on board 9.50 So John left the ship, saluted her with cheers - afternoon running down the channel.

8th Cape Gillies S 58 W. North & pretty winds blowing in an immense abundance of all three Albatross Cape Pygmy & strong Petrel many parties of Leander.

9th Schouten Island N 92 W. - winds light North & pretty. The same birds seen as yesterday.

10th Lat. 40.44. Long 149.13. Air 32.5-57 Sea 32-34.5. Pretty winds with the bar. rising much seaward but few birds.

11th Lat 37.50. Long 151.22. Air 54-60 Sea 54-59. Bar 30.196. ^{unseen} W. winds, shifting to N.W. at night. Made the land of New Holland - Cape Howe N. 29. W. 22 miles. - no birds or very few.

12th Lat. 37.19 Long 151.37. Air 57. Sea 59-61. Bar 30.160. No birds seen. N.W. beating winds.

13th Lat. 36.1. Long 151.48. Air 55-59. Sea 59-66. S.W. winds heavy themselves & lightning - morning no birds, numerous flashes & water at night.

14th Early this morning descried Sydney heads the southern of which is a very fine bold bluff with a light house on the top. The coast of New Holland which we saw along the morning reminded me of parts of England the coast of Suffolk & Norfolk especially, it consisted of low cliffs of sandstone stretching inland into downs covered with grass or a thinner green herbage. There were some white sandy beaches. The distant hills were densely wooded with a kind vegetation of gum trees. 11 A.M. passed the mouth of Port Jackson a very large harbor with an open mouth. Some reefs of rocks near the northern shore the cliffs all round are very low & uninteresting - the hollow of the sandstone rocks contrast much better with the dark foliage than the black volcanic cliffs of the estuary of the Derwent & the straits of these cliffs were being visited - At 1 P.M. we were under the lighthouse rock which is a very fine feature crowned with the lighthouse & the

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July

Stoney Port Jackson.

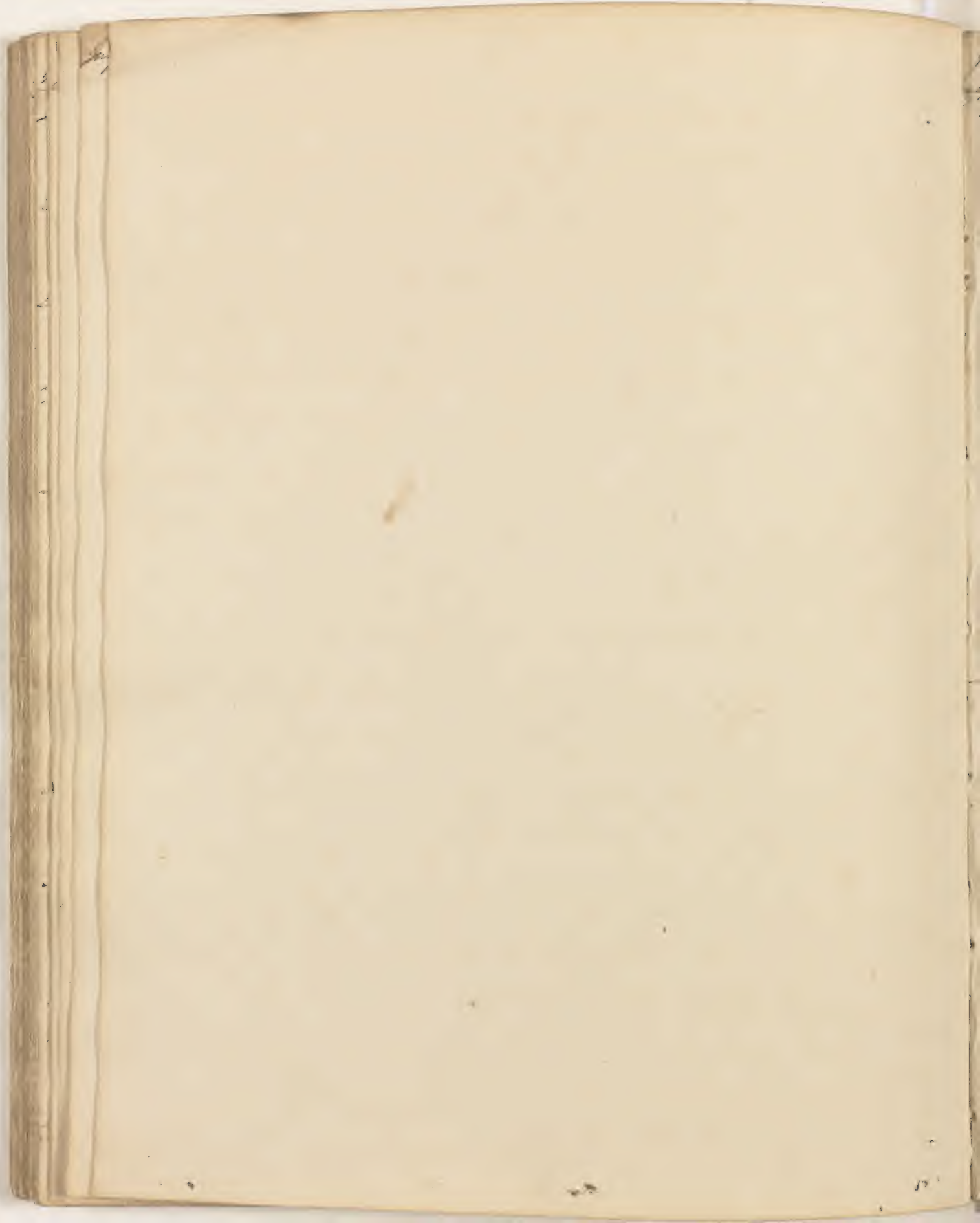
140

- 14th Signal Post on which were hanging numerous flags the entrance of Port Jackson is narrow & the view looking in is very pretty the hills & mountains are well wooded & there are so many turns that only the peaks of the town are seen & then caught. Several windmills catch the eye first & then some very fine houses indeed, the new government house especially, not yet inhabited is built in the Egyptian style & is well placed on the top of a promontory opposite Garden Island below it is Mr Mr Leay the late colonial secretary a very handsome white built thing - The house of Major Gibbs the customs comptroller is also extremely pretty. After making several laps the wind failed us & we were obliged to tow the ships up to their moorings between Garden Island & the fort domestic opposite Elizabeth Bay & inside Pinchgut Island so called because some convicts were once starved on that lonely little rock. Very little of the town is seen from the ships but part of the shipping higher up the Bay & a fine mole comes on along it. Some very fine Norfolk Island Ponies are also great attractions as well as the not beautiful - In evening the health of our crew on board.
- 15th A fine immigrant ship the Herat arrived & anchored opposite us she seemed very full of both cabin & storage passengers - From Mr Mr Leay (Jr) came on board with the Captain & expressed himself pleased with the drawings of Constable made during the voyage. It is the only branch of that district in which the painters are living & is excellent - He told me of a genus (Hemiptera) being common on the salt water of the Bay! Being making up letters for home.
- 16th Hard rain all day with S.W. wind, at times the rain falls more heavily than I ever remember having seen it. Sent letters to England. Capt. P. P. King came on board. Some fish caught in great numbers in the Bay with the Seine were brought along side they were called black fish & are very poor eating among them was a big fish called a whiting. All the evening there was heavy thunder & flash lightning.
- 17th The rain has been falling without intermission all night & morning. Went ashore at 11th intending to call on Mr Mr Leay - landed on a promontory called the government domain, it is composed of several

July 7th

July 7th

rock, the ground is very prettily laid out in numerous walks & drives among a low arborescence of Eucalypti lanceolata & Bankia phagnomifolia & Leptospermum. The Bankia & a beautiful Pimelia in beautiful bloom. After going the length of the domain the town is seen to the right hand & to the left a village of good gentlemen's houses called Woodlawnville with windmills on it. The town lies in a hollow running up from a Bay called the Cove the streets terminating in dirty wharfs. The former are very long with some fine stone building of a reddish sandstone but more dirty insignificant ones. They are broad but ill paved & in this weather very dirty. Public houses predominate. The Banacks are very large & the dead wall that surrounded them runs a long way down George's Street would it only do figures. The Churches are not prepossessing on the exterior & there is a sad want of taste displayed in building them, one for instance has a cylindrical turret for a steeple with battlemented tops. Brand who are not uncommon before the shop doors & smoking along the street seems very much practised, to such an extent that notices are often to be seen prohibiting the practice in places where even in England would think of using the pipe. Mennilla cigars are the only ones used & Brazilian or Australian tobacco (both Negro-head). The Club House is said to be good but it excludes natives & their class of the Navy. - The best Hotel is kept by a Mr Petty close to the Banack gates & is certainly an extremely good one & moderate considering how high priced many things in the Colony are. The market place is good & butchers much cheaper. Oranges though grown abundantly are dear for 1/6 to 3/4 per dozen. Other vegetables except Potatoes are scarce & the best of the latter are brought from Brown's river P.D.C. Some of the shops are good but none very fine none much finer than the Hobartown ones. - There seems a want of a good lounge or place of Rendezvous such as good Confectionaries. The whole town is perfectly English. - Went out to the Banks in the morning with Tomlin & saw a very pretty little instrument of the Thermobarometer constructed lately in England on the principle of the Lycopodium but Mercury is used instead of oil it was



July
17.

Lydney.

142

1841. Manufactured by - its readings gave 30.32 while ours
on board stood at 30.328. I may here remark that the Barometer has
stood very high through all this deluge of rain having risen to
30.426 with the wind from N.W. by S to E. when the rain ceased
with the Barometer falling at 8 PM - This & June are the rainy
months when the falls often lasts for 8-10 days doing great damage.
In going down to the wharf to go on board the Sudora I met some
persons landing from the Herald when I was accosted by one of the
fair sex with "It is an uncommonly dry day" The Herald brought out from
Greenock 300 Emigrants - The watermen here are equipped like
those in London & push skiffs or Wherries & are under strict regulations
lined with law & order addition in the Sudora Frigate Mr D. Eggen the
agent here - Capt. S. gave in 1838 a bill to all the then inhabitants
of Port Philip in choosing the Governor who were ranked as gentlemen
they mustered 7 & another 7 months afterwards when I was entertained
at night the streets of Lydney are well lighted with gas - except at
the wharf where from the intense darkness I unluckily walked over
the into the water when I struck in some sand up to my breast in water
& luckily the tide was no higher & I escaped with a shaking - At
10 pm all the shops are shut up & constables patrol the streets in open
charge who keep the peace. Oysters are abundant but only tolerably
good they are coarser than the English ones & have a longer shell.

1841. Cleared up with the Bar. falling all day with westerly winds - 8.15 pm
Mr Lind the barrackmaster late of Gibraltar came on board with Mr
Rathbone the Marine composer who set Pyron's Hebrew Psalms to
music, he is a Turcomanian Jew - Landed on Gardner Island on which
the observatory frame lies. Placed its Lat. is 151. 15. 45. This
is about 1/4 mile long covered withIMATE trees such as a Samolys
Banksia Cassia Leptospermum & several others with which
I am unacquainted - On the Banksia a Trantheus? grew. There were
2 Acacia one like Sophora the other like Straitia of Formosa & Chilodactylus
& Adiantum - & Proserpinaca fragrans - The stones were
covered with Lichens & the sea with a nodulated weed - A pretty
scarlet Popper as & a curious cup shaped Proserpinaca? even the only
thing except a Clavaria - Oxytus were common on the rocks with

July
1841

July 1841

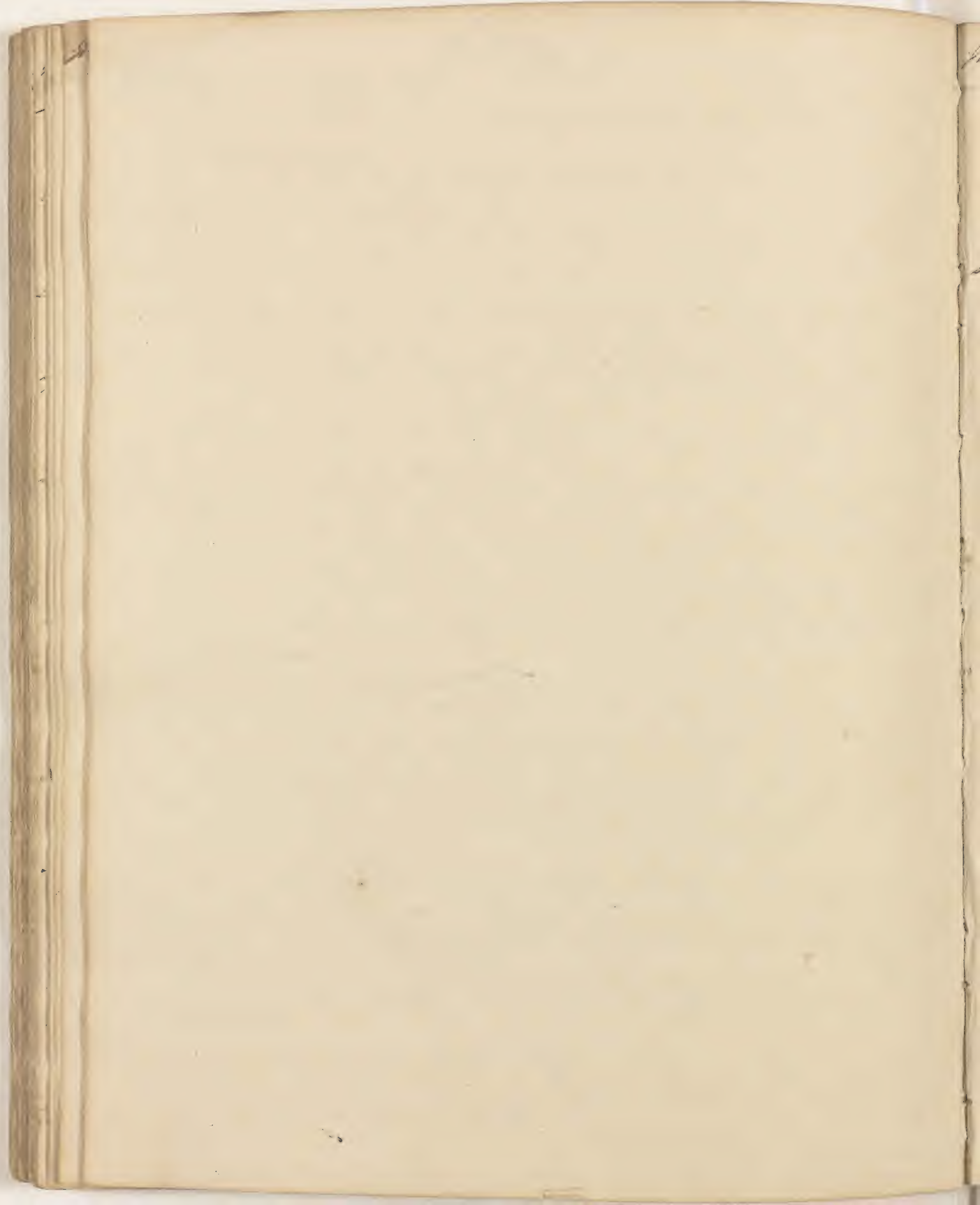
18th a Chiton & other shells. - In the evening I started some Sydney apples like ^{all} others I have tasted in hot climates they are sweet & without flavor.

19th foggy weather threatening to rain with the barometer rising. - Capt King & the Mr. Leay came on board & were employed all day looking over our Southern Collections. The presence of living corals to such great depths was formerly never very remarkable. - Some of the shells Capt King recognised as S. American especially the small yellow bivalve from the *Macrocystis*. - Dined in the cabin & heard a good deal of poor Allan Cunningham whom the disease which terminated in his death was contracted by sleeping too often in the open air in New Zealand a few hours before his death which occurred on Sydney. Capt King called on him & told him of Capt Hobson's discovery, his countenance was much brightly brightened up & he asked "did they go into the interior" on hearing the answer "no" he seemed much disappointed & never spoke afterwards his head fell back on the pillow for the last time. Richard Cunningham thought a good arrangement of collections was very inferior to his brother both in the field & in the knowledge he was unfortunately addicted to the bottle. - Capt. Forster was an intimate friend of Capt King & before his leaving the Straits of Magellan was often in bad health which weakened him much, so much so that he was apt to suppose the day of our he felt overcome he should not have strength to save himself his after fate proved the truth of his words. - Many anecdotal of Dr. Purdie his blue long, rats & the Laticipian followed. - In the evening the storm was drawn in some of the small boats when a good many fish were caught including Cat fish, Sting rays, Porcupine fish, Mackerel, Whiting. Bad fish very poisonous, & a small Sardine - a few shells were brought up but none of any value. -

20th Sunday. a tolerably fine day with strong wind from S. the barometer rising fast. Went ashore to the government domain with Hallett & Portman to the sandy soil found some very fine *Sparganium* *Lycopodium* *Macraea* - *Pinnula* - *Isoranthus* on *Casuarina*, *Mantouia* 3 - *Quercus* & the *Bianthus fruticulosus* on sandy soil - *Grevillea*, *Persea* & *Myoporum*.

21st Very heavy rain all day with S.W. wind & the barometer rising fast to 30.38. - The Mr. Leay came on board again to look over some more of our Sea Animals especially the Auckland Island ones. Among them is a *Galathea* very like the Arctic one & a fine *Gammarus* - a curious animal from New Zealand land appears more nearly to the *Hyphal* *Tridacna* than

143

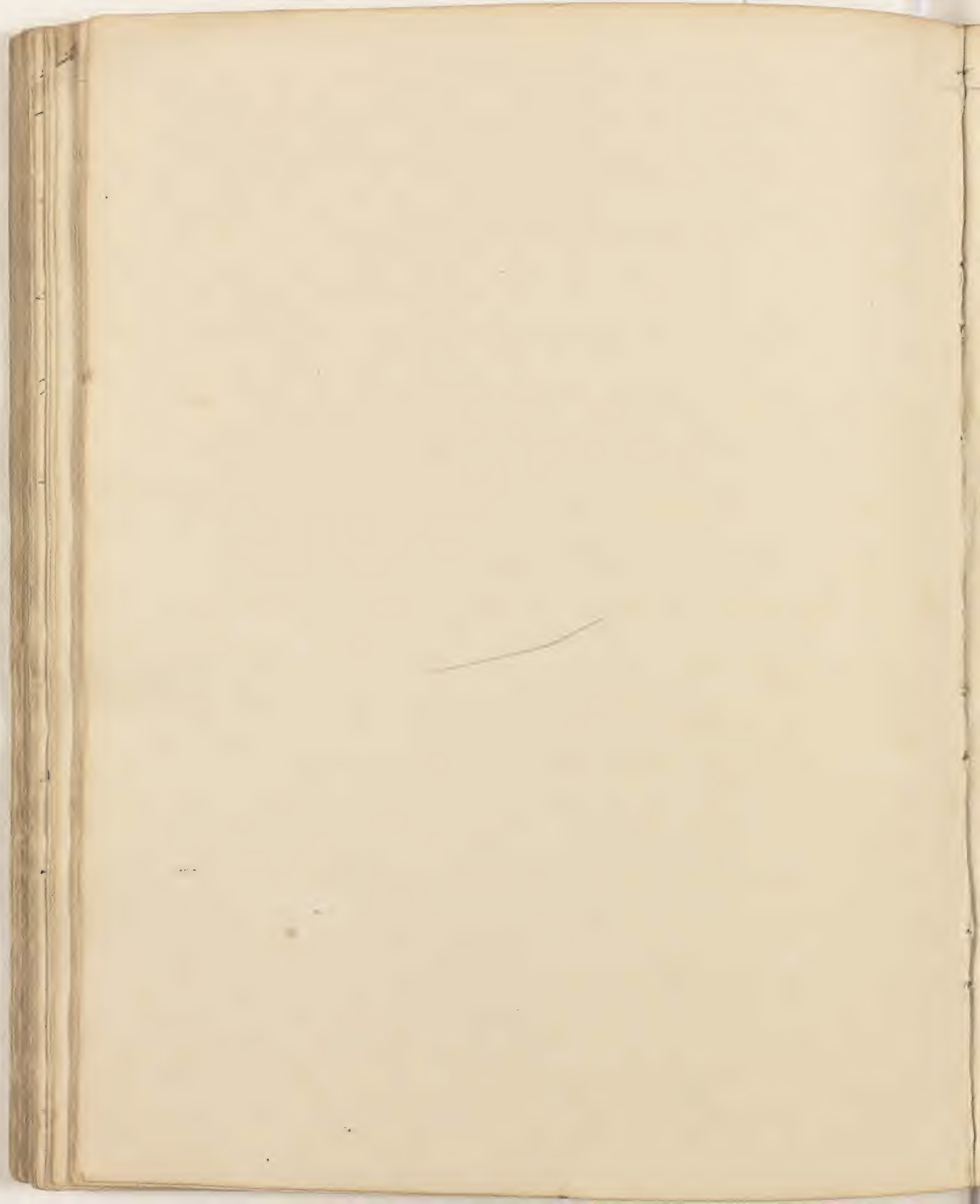


any but the most delicate the antennae being apparently wanting & the eye
are as in the fossil *Antennos traca*. Was told that Dr. Huxley could tell
the age of a skull by the taste, which he proved by producing that of an old
woman buried a few years before which tasted greasy &c. The scene was shot
again to night with good success. Carefully brought back some specimens of
the *Acronia* & *Perostictum alvinae*.

22nd Thursday - term day employed all day, taking Brown-ston, changing, pleasant,
raining

23rd At 7th landed in Elizabeth Bay at the foot of some fine Sandstone rocks
opposite to Mr. Mr. Leary's house & met Mr. Wm. Sharpe Mr. Leary in the
garden. We spent an hour looking over his beautiful grounds which
consist of 25 acres of sandy slopes and the hill & rich light soil on the
flats with occasionally a clay soil the Sandstone rocks breaking
out here & there. Though this was a most comfortable time for
visiting a garden every thing dripping with the torrents of rain
that had lately fallen, my surprise was unbounded at the beauty
natural beauties of the spot the inevitable taste with which
the grounds were laid out & the number & variety of the plants
which were collected together. The garden occupies the whole of
a beautiful bay, exposed to the North cleared in some places & in others
covered with native shrubs such as the *Acronia* - *Leptospermum*
Pittosporum undulatum, *Elacarpus eguacarpus*, or fringe tree,
Corymbia excelsa, *Lamia speciosa*, *Roulinia*, *Callitris*, *Casuarina*
Eucalyptus, the wood pear tree & many smaller shrubs. The first
things that struck me were the abundance & luxuriance of many
species of brachylacous Epiphytes which clustered & crowded over
the branches of many trees in sheltered spots most suitable to
their growth such as *Dendrobium acuminatum* n. sp. in leaf -
another sp. with large yellow flowers, a *Gymnema* from Hastings -
Gymnema flavum, all the former on a fig tree with the may-
sufficient *Arctostaphylos grandis* which envelopes the larger branches
like some gigantic fungus - On the rocks & stems of trees in
similar situations there were pointed out to me among other
orchids, the *Dendrobium nobile*. *Sarcocolla* *chilensis* *palcatum*
Another *Gymnema* from Macassar, *Dendrobium tomentosum* from
Loke River, a *Corymbia* from Cow pasture - *Phoradendron* *complanatum* &
Arctostaphylos forficatus both wild - On the rocks were specimens of the

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Sauronia "sp? the same as *gemma* from San May brought
from the San May river several ferns as *Asplenium nidus*,
Pteris caudata, an *Adiantum*? & *Acrostichum grande* adorned
their most orchidaceous habitats in profusion the *A. nidus* especially
throwing out a beautiful crown of deep green fronds 4 feet long.
The Terrace which faces the sea in front of the house an of fine
free stone which however gets sadly blackened by the dripping
from the gum trees, there are tallered over & covered with *Papilion*
Mignonia, *Cacti*, *Aristolochia sempervirens* & *Fig* which does here
extremely well. Above this Terrace there is a fine lawn composed
of *Clusia* & *Gynerium* *Dactyloctenium* the latter of which is sometimes
got frost bit. but together they form a short thick clastic turf.
The house a beautiful 2 story square house is about 100 feet
above the sea on which it looks down opposite Garden Island
& the richly wooded banks of Port Jackson as far as the mouth of the
Port where the town shuts out the sea & the North head with its
precipitous bluffs is half hid by the South head on which is the
Lighthouse & Signal station. The garden below sloping down
to the Bay forms as much exquisite foreground & the white
ships of the horns of Elizabeth are strongly contrasted with the
thick foliage above & the deep blue water beneath. Behind
the house are the quarries from which the stones have been taken
but as they have been cut away from the front of the hill they
now form a most picturesque feature when planted over. The
interior of the house by no means belies the exterior, the ^{Papilion} hall is
large & adorned with beautiful marble & slate tables & native marble
white with rich brown & red variegations & the busts of which of
Faint of lime. The vestibule opens into a large oval atrium from
which the rooms branch off lighted by a dome with sick windows
& lantern skylight. while a handsome stair case runs obliquely
along the side to a gallery ^{into} from which the upper rooms & open
on the right is the Library a magnificent lofty room well lined
with the chief part of Mr. Macleay's valuable collection of books
chiefly of Natural History it is lighted by three windows on one
side of plate glass the panes & all the wood work are of what
is called Cedar here the & looks as handsome as making any
substant what appears to me Egyptian pillars & door ways.



The drawing room & dining room are in equally good taste & richly furnished the latter especially containing some good paintings. Mr Mac Leay my father's old friend I found looking extremely well though quite grey headed, he was busy with his science his assistant - Before breakfast we went down to the rocks to the West of the Quay where the Glichema splendens was growing luxuriantly. The Fenian whale boat was hauling the Seine which brought a shoal of herring & smelt & Sardines as good as the Italian fish - Many squid were taken (cuttle fish) which exuded a quantity of black matter when irritated - Sting ray & leather jackets were also common. Some best kind of mussel boats are allowed to fish in the Quay - we are very allowed to walk on the shores above high water mark & as the houses on either side of the property are stuck there is no possibility of any persons intruding. At breakfast I was most cordially welcomed by Mrs & Miss Mac Leay & after it went upstairs to Mr Mac Leay's shop the smell of camphor & specimens so well known to me at home reminded me strongly of former times especially as I found every thing in the most stable mixture of confusion & order in which Mr Mac Leay's shop at the Museum & his rooms. I came struck are wont to be. It was a square room with one window, 2 1/2 sides lined with cabinets & one with books for immediate reference the centre was occupied by a beautiful ^{writing} table framed of a cabinet of cedar containing 150 drawers framed & glazed 12 inches by 12 inches of Sydney manufacture & equal to any thing I have seen at home Mr Muller's of Liverpool not excepted. There were four other cabinets around the room composed of an ordinary interest to the Antiquary, all of the old fashioned forms, like chests of drawers below & for sliding drawers & a longer smaller top with glass doors lined inside with blue silk they were, first Mr Mac Leay's as brought by Mr Mac Leay whose drawers are all formed of different kinds of woods, one of the best known of his insects was the Leucospis macrocephala the second is that of General Davies the third Mr Mac Leay's containing many very rare insects a third of his British insects & the fourth Mr Drury's collection & cabinet. - Another unfinished new cedar cabinet is intended for Crustacea - Here also there is an immense & invaluable collection of Cuban insects amounting to species

July,
1841.
23rd

Sydney.

A splendid & complete collection of Cape Town plants in shadow. Some of the ferns which both Mr F. & his brother & I have been collecting they were bought in boxes of 4 by inches containing perhaps sp. for 350^{fr}. The Australian collection is of course somewhat in *Proportione* especially of *Lamellariaceae*. - Of *Crustaceae* many are highly curious especially those from the northern & western parts of the Island brought by the *Wato* mast. At 11 AM the weather cleared up & the view of the mist rising from the hills & valleys was beautiful, a few clouds only hanging on the tops of the higher trees while natives seemed to revive again, a few boats came out, the Diamond bird flitted from the trees, & the Large Sea Eagle (Peregrine) left his lonely lair & commenced wheeling over the calm waters of the bay. We went out this time to look over some of the larger trees on the ground, there were especially the *Aracaceae* the *Polka* Island pine in particular & *Excoecaria* two of which opposite the stable doors are nearly 30 ft high. The *Callitricis pyramidalis* is wild on the grounds & forms a beautiful soft looking oval tree about 25 ft high with greenish twigs & leaves. Others were a curious *Podocarpus* from the north, the Chilean *Aracaria imbricata*, *Carus* *Strobus* the *Kauri* & *clavonaria*, *Pinus longifolia*, two New Zealand *Podocarpus* *Aracaria* *confertus*, *Pinus alba*, *Juniperus pinnatus*, *Persea*, *Teacote* *occidentalis*, *ripida*, *Halimifera*, *maritima*, *pumilio*, *capensis*, *longifolia* *Pinus canariensis*, *Larix* & a Chilean one. Among other curious tropical & other plants a *Pothos* from the New Sea. *India australis*, *Eugenia jambos*, *Saisburia*, *Hadmannia*, *Phyllidrium*, *Aravia*, *Flagellaria*, *Papilion* & *argyria*, *Saccon*, *verrucosa* & the N. Indian water lemon P. *Lobifolia*, *Phormium*, *Phoenix* *Leonensis*, *Sterculia*, *Cacti* grafted on *triangularis* are C. *hippocrepis*, *Flagellaria* & *Halimifera*. *Siphocarya*, *Calanthe* var. *stratifolia*, *Rubus rosafolius* & the S. bird species near it without compound but different. *Alpinia nutans*, *Cinnam* *pedunculata*, *Heliconia* *coriacea*, *Martonia*, *Crotopha umbraculata*, *Therodendron*, *Atroxia*, *Stenopsema* with a profusion of yellow flowers, the S. bird *Baccharis*, *Cerbera* *Calathea*, *Iris* *clavata* *anfractifolia* 15 ft high. - Of the more curious native plants were *Doryanthe* *exilis* coming into flower with a stem 10 ft high. *Sterculia heterophylla*, the *Marston*

This mountain is *Tungurinus* superior in elevation to Mt. Sycamore, both
are Volcanic but neither active

May 1st, a very large round *Verticordia*, *Argemone*, *Frevelia*
Obusta a fine tree 20 ft from Morston Bay - *Telekia speciosa*
 the noble *Maratium* of this colony - *Capparis* from the north, a
 Morston Bay *Myrtoma* a *Dendrothoe* (*Loanthus*) common on *Casuarina*
 which it does not injure, another species that Mr MacLeay has seen
 or identified itself as to be indistinguishable from this plant the *Casua*
Scaphothia elegans, *Leptocarpus australis* - of European plants the
 Ivy does well & all the common ones as Snowdrops, Daffodils
 Jonquils &c. The *Crataegus oxyacantha* rather elongated in leaves &
 peduncles - *Canadensis* seemed to prosper & the *Meander* is now
 sown or planted so as to grow into a hedge

From the flower garden we went to the orchard among groves of
 oranges, Lemons & sweet Lemons, Cherimollas & another perhaps
 distinct Chinese species brought from S. Am. by the Yankee Squadron
 The various little Manchara orange, Euphorbia long and Lechee -
 Custard apples, mangoes, the evergreen apricot from China, Avocado
 pear native & St. Ind. Achras. African fig apple, guavas, date
 palms *Pandanus* *Adiantum*, the Lechee raised from seed ripened in the
 garden, *Jacaranda* & Logwood, Figs & peaches & in short every fruit
 except gooseberries & currants succeed, the apples though good are
 often attacked by an aphid which nests among the roots & signifies
 the extinction of the whole tree. A splendid olive tree here attains
 a height of 30 ft. & bears most abundantly - Strawberries, Plums
 Apples, raspberries &c &c. The pine also do well & grow in vineyards.
 From thence we walked round the bay to Rush gutters bay & saw
 the *Adiantum* forming a tree low heavy looking tree on the water edge.
 & returning by a short cut to the house passing some most romantic
 spots, especially the projection which forms the S. cape of Elizabeth
 Bay which projects into a rocky precipice christened *Luncheon* on
 which it is the intention to build a temple - In the house we
 remained in the museum till dinner time when Mr MacLeay arrived
 who has lately travelled a good deal through the Northern Island of
 New Zealand which he crossed having ascended a mountain 14000 ft
 high from which he brought many new & curious plants & ferns -
 some fine *Polycaepis* &c. - I had nearly omitted mentioning Mr MacLeay's
 Cuban bloodhound three very fine dogs one noble old bitch of a tan

July
1841

Sydney.

the color with most intellectual lines on his countenance, the other were an old bitch & a pup dog both black with tan colored feet bellies & marks over the eyes. These dogs never bark when loose but bay & are very savage, they are set loose at night to guard the grounds the fourth is a Scotch blood hound called Wolf much larger more wiry haired & more savage than the others, though not so noble a looking animal.

24th A much finer day. Captain Pop & Cooper came to breakfast at 9 AM & we again went over the grounds - Our own large property is valued at £2000 per acre - Some land in the town sold the other day at the rate of £65,000 per acre. At 1 PM went to meet our friend at the club who took me to his house to show me the New Zealand plants amongst which is a specimen of *Dioscorea* as large as any of the gums but more bushy leaved like the fig tree. The Nurse Exch. - From thence we went to the Botanic gardens beautifully situated in the bay except the town they are neatly kept & tastefully laid out though I was much disappointed in the paucity of rare plants to be seen.

25th Sunday a very fine day - Pleasant brought off to me specimens of a beautiful *Laccaria* with variegated cones.

26th In opening the trader's cases found some of the the most curious & beautiful to be seen in the inner the box the ferns packed round with sawdust all dead. Sent the former to Mr MacLay. Went ashore to Garden Island found a few shells one *Argopecten*, *Plorus typis*, & a few other things.

27th Tuesday a very fine day. Capt. Biddle & Dr. Nicholson came on board the latter gave me a very kind invitation to his house thought our ship's fatted in a very superior manner to those of the house some of whom were very nice fellows. Told me that at the same place the same parallel as Auckland a stream of mineral water issues from the top of a hill & discolours the waters of the sea for many miles. 2 PM went ashore to botanize over the government domain with South got several things as a *Dioscorea*, *Plorus typis*, *argyrea*, *Lactaria*, *Dendrobium*, *Linum*, *Crucifera*, *Epacris* &c. Went to the Botanic gardens & walked about saw the Launceston steamship go down the harbor for Port Phillip & returned on board by tea time.

28th Wednesday, raining with gloomy weather nearly all the day. employed in drying plants.

194

24

25

26

27

Thurs day - Went into town to shop & crossed the river by the little bridge
to the large as usual and somewhat composed of logs & branches. The river
around with Potamogeton & Sparganium & Scirpus & Phragmites. The water looking clear
in the town & just below through some place very fine indeed. Taking the river
to - and even as the ground ascended it changed to a clay soil covered with
green turf & no great size with an evergreen Juniperus & Thuja on the ground
some Prunella plants as Prunella Prunella Prunella & Prunella.
In the hills some hills were obtained of the river, some along up a Prunella
through a valley with Prunella some plants & lower and in some places
in a valley covered with wood. The little Calamagrostis serotina was not
in common with Lonicera caerulea, Monarda viridifolia & many other
plants & little further on we passed an Irishman's mud house & no better
condition than ever its owner in this poor green Isle - Such a house & family
I never saw in the Irishman's Land. I was much surprised at the number
of public houses & the comparative poverty of the houses of any kind
to near a large town & then I may remark that there seems among the
people here no middle course between the town itself & the far West, it
is a city without suburbs - A few good gentlemen's houses are scattered up
& down the May but no long cottages or farmers & no winding corn fields
either green or yellow are to be seen - Our walk was lonely & the only
one or two carts passed us but there were no further signs of civilization
but what the road afforded & it was a poor specimen of a winding path.
Two or three directions all tending by a more or less circuitous route to
the same end. After proceeding some mile we turned off to the Westward
after ascending a steep rocky gulch through which a stream ran we ascended
the opposite side into the road we had left & returned through the woods, killed
the sandy plains near the sea, covered with the Grass, Monarda, Prunella
some curious umbelliferous plants & the various Angiosperms, the Elymus
pygmaeus & several beautiful Sparganium, Sparganium monotoca & Scirpus
Prunella luteifolia & Prunella with another. Heavy clouds were hanging to
the S.E. with much thunder rain & lightning which passed to the Southward
of the town - These conditions stopper about in the May are in general
the favorite habitat for Sparganium, Scirpus, & Prunella. Crossing the bay
we passed some magnificent ships of which one the Queen Victoria was a fine
emigrant ship just landing her passengers, among them I could not help
even asking some very pretty English faces who seemed heartily glad to see them
just one seen on any ground. About 11.30 fine it lay in the water with
rain & with a load of plants & a fine amount of Scirpus of the Scirpus sea
we were glad to take refuge in the New York tavern the parlour of which was
filled with Lady Emma's ants - In the drinking our beer we were much
amused in listening to their conversation, they were apparently of the

July

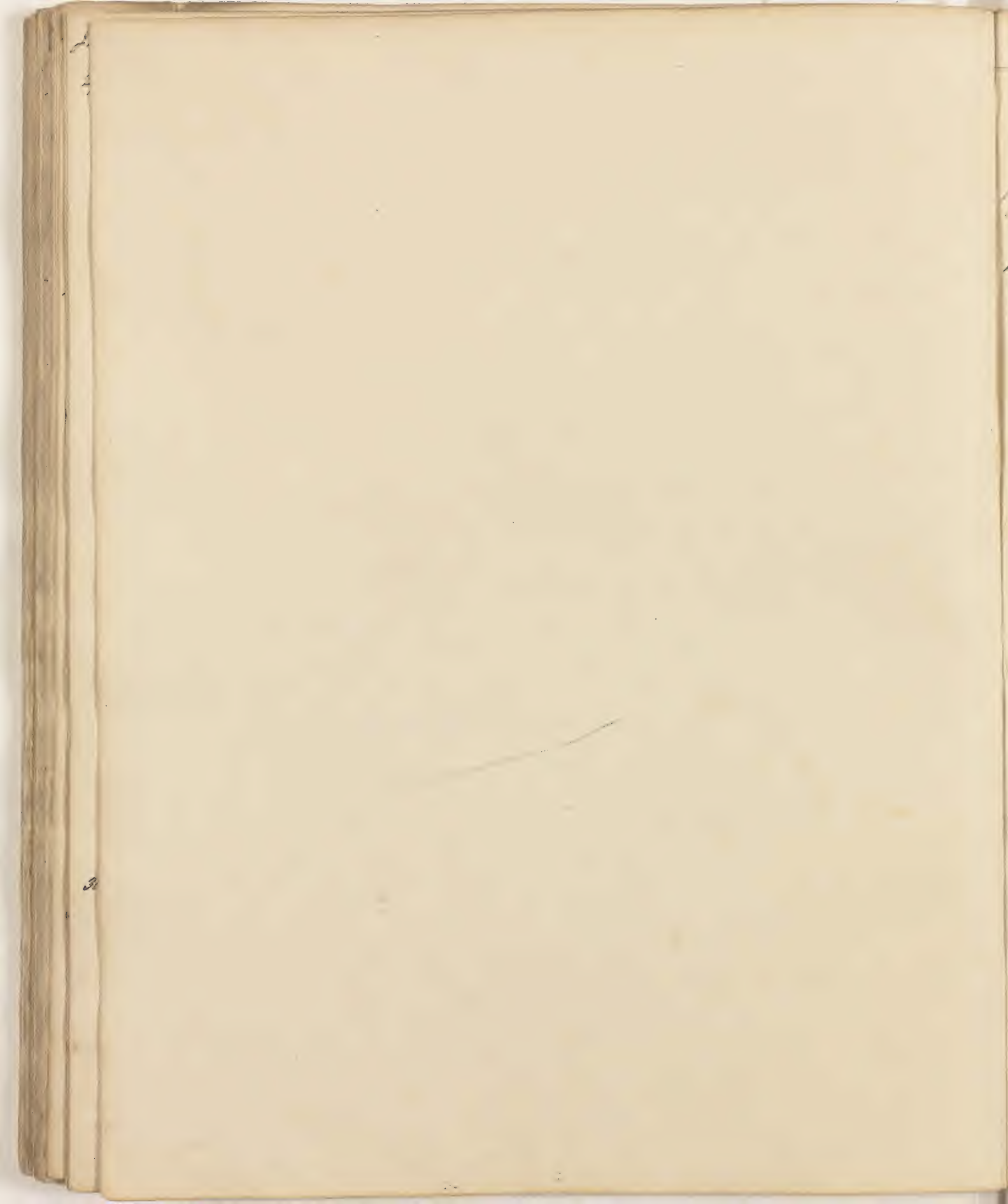
Sydney

29th

mixing class of English farmers, Yorkshire from their aspect, in their delight at being anticipated for the ship they dreamed of nothing but comforts to await them up the country & seemed to think that their hard hips were sure one talked of having a nice house with a Persian on a hill near the water with garden & I really her husband must provide her such a one, little did she think that she will perhaps have to spend two years in a mud house, with a marsh before the door & the bush for a Persian at; & another congratulated herself on the prospect of making herself useful by knitting mor garter nets for her father, if in three months time she is making onion nets, or Sines for a neighbouring lagoon, it will be perhaps the lightest part of her daily toil. Generally speaking the young men were smoking & drinking bet or card frog; one talked of going to a billiard table & another of the theatre, after having spent the day going about to milliners shops with their concertos. What this colony is for a settle I do not know, but to me there seemed a most mistaken set of people in their ideas of future comfort or happiness if they are so rich as to afford these idle amusements, why leave home where they can be obtained at a much cheaper rate? if not his little all is much better spent on useful tools & books & kept to buy luxuries when he can afford time & opportunity to enjoy them. As a general rule to be observed by settlers in Van Diemen's Land & I suppose here, none but the male & stronger part of a family should come out first who should be ready & willing to endure many privations to the end that they may soon be able to relieve their wives & sisters & to afford to them comforts which they must procure in a hotel at an enormous expense. & from which they must be headstrongly debauched, & the money which was spent in procuring them recovered must be recovered by submitting yourself & family to a series of privations & sufferings. - It soon started raining & we started off through the town & government clove, air for the ships splashing through the mud at every step while the little machine compared on carrying our group true to Proves among the bushmen.

30th

A tolerably fine day - Started with Mr Smith for walk to Botany Bay, went into town first to get some suit for the towing out & some glass bottle for preserving specimens. - Passing some long low cleared hills to the southward of the town we fell in with the eldest son of Judge Stephens who volunteered to accompany us. he had just emerged from the Sydney college school in England would be thought worthy no higher title than school for the top of these hills the view of Port Jackson Sydney & the interior as far as the blue hills is very fine indeed though some I flatter to a degree of a very faded color & very dry looking from the rivers being hid by the trees that cover most part of the land. To the southward the low hills along the coast are distinctly seen the road here is very bad these hills being of a clay soil are very much cut up by the late rains & an almost impassable for a light vehicle.



Further on we enter upon long & broad plains of undulating sand hills covered with a stunted vegetation 1 to 4 feet high. The road through this consists of a series of salt tracks through the bush and deep in sand & like all the Sydney roads I have seen branching off & meeting again at all quarters. Several lagoons were passed among the hollows which though nearly dry in summer are now full of water & abound in fish & some small fish, plover & kind of snipe. Their banks are covered with different grasses & *Posidonia* *Juncea* &c. while a pretty *Callistemon* & several handsome *Sparganium* grow in them. The ground here is covered with *Myrtaceae* & *Proteaceae* especially the *Lambertia* & a *Leptospermum*, several curious small *Eucalypti* are common. A showy *Casuarina* of stunted growth some *Leguminosae* &c. About 4 miles on we passed a deserted black looking water mile beside a running stream over which there was a wooden bridge, & this stream a kind of trout are said to abound. Proceeding over similar ground for three miles further our descent commenced & a fine view of Port Jackson bay presented itself a broad sheet of blue water apparently 6 or 8 miles long & 4 or 5 broad bounded by a low line of hills densely wooded at their base - a line of low wood before us indicated our approach to the salt water with a marked difference in the vegetation. A pretty slender *Gliricidia* grew in a marshy spot inside the woody belt among several *Cantharides*. The trees were chiefly *Eucalypti* of no great size with *Acacia* *Bankia* a few *Leptospermum* & *Viola* &c. Under which was a dense scrub of *Myrtaceae* & *Proteaceae* with a pretty white *Saprobium* *crucis* plant, *Rumex* *sp.* standing up the bushes with pendulous clusters of blue flowers & other attractive plants. The breadth of this belt was about 1/2 a mile when we opened the waters of the bay at a large two story house belonging to a Mr Brown whose domes this were built & named to be his civil, turning off through the bush to the sea toward we came upon some huts with some boats lying off it & a family of the aborigines the most degraded looking savages both men & women with nothing but a blanket thrown diagonally across their persons, adorned by painted dirty & equalled tall garments & very with red calico to their legs nearly black with bushy black hair broad faces large mouths & high cheek bones, the women with immense necklaces of some beads round their throats, the men with long light slender fish bones spears armed with a pointed iron spike. The huts were inhabited by white mice, his husband, to one of whom we applied for something to eat but he was such a sulky dog that we could make nothing out of him at all so proceeding to another we found a very civil old man who a fisherman who engaged to provide something for us in a few hours time. The ocean while we walked along the beach to the *Peruvia* monument. The beach here is very low & sandy bounded by wooded banks & on low cliffs of sandstone among which the *Correa* *alba* grows & abound over. There were few shells on the beach & is seaward.

July
1841.

Bydney.

30th.

Proceeding nearly a mile we turned a cape & saw the entrance of the bay which was rather broad & bounded by low sand hills & sandstone cliffs on the North Horn stand a square block erected by the French (having obtained the governors permission to La Perouse) this having been the last place where tidings were received of him, Capt. Cook having met him here, until his melancholy death was heard of from the Tigua. The distance of the monument from us being too far to allow of our reaching it this day I was glad to receive this further information from young Stephens.

"During the stay of La Perouse at Botany Bay, Monsi^{er} La Rueux, a naturalist & the expedition died from the effect of wound received from the inhabitants of the Main gators Isles; La Perouse erected a tomb to his memory which was destroyed by the aborigines but Governor Phillip's first Governor of N. S. Wales caused the inscription to be engraved on a copper plate & to be affixed to a tree, it runs thus as written by La Perouse.

Hi jacet Le Rueux

E. F. F. minima Gallia Sacerdos

Phisicus in circumnavigatione

Morsu

duo de La Perouse

Ob. 17. Feb. 1778.

I was unable to procure a copy of the inscription on the monument which I have learned is long & written in French by what expedition I do not know. The name of the unfortunate La Perouse is so deeply engraven on the mind of every child & called up a mine so many associations connected with the time long gone by when what was known of his voyages & that of D'Entrecasteaux & search of him used to perhaps first turned my mind when far travelling that I looked upon this spot with no ordinary interest. The day however was drawing to a close & our prolonged fast obliged us that it was dinner time so we returned to the two Germans but to enjoy a good dinner of Coffee, champagne, &c. & the wine. The old man had been 33 years in the colony & came out in one of the first prison ships having even obtained his liberty he rapidly acquired a competency but one fortune overtook him. I not being such a far sinner as most he neglected those golden opportunities which have been provided for times to help worthy members of society. His acquaintance with the colony was of course intimate having attended the first governor in all his excursions & knew Sydney before there was a good house in it. To young Stephens mainly I am indebted for the following account of the aborigines which he most kindly supplied in manuscript some of the facts were given me by the old German & which I heard corroborated afterwards - see opposite page.

Though it was dark & moonlight we had some difficulty in finding our way back. The numerous cart tracks so constantly intersected one another.

184

30

July
1841

Sydney

154

31st

Breakfasted with Dr. Nicholas for whom I had brought letters from Mr. Wallis
 is the favourite. On entering his study I was much pleased with the new library
 it presented the books were a very choice selection chiefly of Philosophy & subjects
 of Natural History. Chemistry &c & on a table stood a very fine Septuagint from
 New Zealand, a portrait of John Allen Cunningham was hung in the room.
 Our conversation naturally turned upon the Expedition as also upon that of
 the American one where I was surprised to hear that Commodore Wilkes was
 much delighted by his officers, the better part of them especially, with whom
 he was not even upon speaking terms & further that they could not see so much
 land as he did & that though they could not tell him so they are persuaded that
 much of his coast line is imaginary, his temper seems to have been dispo-
 sable & repulsive, while three of his officers known to Dr. Nicholas were very
 superior persons in deed. An extraordinary fact was related to me connected
 with the meteorology of the colony, namely, that two large Lakes, George & Bathurst
 have dried up since the British have settled here one of them entirely while the
 other has thrown itself into a chain of ponds they both abounded in fish & the largest
 the two was 12 miles broad by 4 wide & sufficiently deep.

Thurs. Dr. Nicholas & I went to Mr. McDowell's who engaged to take me out to Bondi
 Bay in a gig on our way we called in at Mr. Mac Leay's - Ascending some hills
 comes down the harbor then Sydney we kept on a tolerably bad road past the
 Roman Catholic school & about 5 miles out of town descended a shallow
 valley toward the sea. Few new plants struck me on the road but a beautiful
Sprengelia in full flower which is common on these heights, an Epacris & several
Botanias. Approaching the sea we entered a more humid atmosphere where
 we met Polka, a Stegania & the benicunda barbate grass in great profusion. The land
 of the bay is sandy & covered with the Lincaea acuta & some Graminea & Cyperaceae
 plants. The whole steep & rocky covered with "brush" of Andrositheros &c where
 some Clusia & Dioscorea benjamina were abundant. Afternoon it rained
 much & evening & continued until night having capsize the gig on

August

1st

Sunday

- 2nd Went ashore to Mr. Mac Leay's & found a fine Sclot. Nicotiana on the rocks above
 high water mark. Saw a paper containing the news New Appointment 2nd March
 at night in Eclipse of the moon. Total shadow of Penumbra very distinct.
- 3rd Limnoria and Gadus taken in the Dingle at low water mark, in search of
 marine animals & seaweeds, returned very successful.
- 4th Preparing for sea. Got 10 dozen Botates on board in preserving animals.
- 5th At 11 AM. Sailing down Port Jackson along the old looking sandstone cliffs
 leaving Sydney with few regrets but at leaving Mr. Mac Leay's fine cat. his mouse
 & some other things much to see.

At Sea.

- 6th Lat. 33. 52 Long 154. 2'. Morning before strong breeze cloudy & rainy
Wind N.W. Bar. falling 29.78 to 29.53 Lightening at night & West.
- 7th Lat. 33. 57 Long 157. 14 Still raining before S.W. winds & the Bar rising, plenty
of rain all day - No birds seen hitherto
- 8th Lat. 33. 27 Long 160. 43 - S.W. winds as before with little rain - Bar rising
between 29.75 & 29.88 Temp. 56 to 59. Some Cape Pigeons & black albatross
seen, a flying fish came on board
- 9th Lat. 33. 40 Long 164. 5 - Wind drawing to the S. & S.W. Clear & squally
with rain - Saw 3 whales. Many falling stars at night.
- 10th Lat. 33. 41 Long 166. 23. Wind variable, squally with a little rain - Saw
several albatross & Cape Pigeon - A school of Porpoises - One struck twisted
the iron of the harpoon - They should be hit at right angles to the length
so that the flat iron enters between the ribs - Many falling stars at night.
- 11th Lat. 33. 32 Long 167. 42. N.E. winds squally with a little rain - Bar at noon
29.886. At 9:50 shortened sail & submerged in 400 fm. Porpoise shells, bones
Black stones & a worm - Net the dredge over which probably did not
reach the bottom as it brought up very little - Saw two Solon geese & a
school of Porpoises - Many falling stars at night.
- 12th Lat. 32. 53 Long 169. 25 N.E. & S.W. winds squally & rainy. Bar rising
29.905 to 30.016. Tied for down drape with 400 fm. line.
- 13th Lat. 32. 12 Long 170. 27. Bar rising to 30.175. N.E. winds squally with
heavy rain all day. A school of Porpoises & also three albatrosses.
- 14th Lat. 33. 27 Long 171. 21. N.E. winds very squally with heavy rain all day.
Many flocks of Linnæus & black albatross & Cape Pigeons
- 15th Lat. 34. 22 Long 172. ~~22~~ N.E. winds squally & misty. Made the three Kings
which are the long island so called by our Seamen after the three Kings of Europe
or some such thing see Cunningham's map who says "Abel Jansz Tasman a
Dutch navigator despatched by the government & command of James Batavia
on the 13th Decr. 1642 for discovery of Land" 42 S & about 170 E. which was
the West shore of the North Island of New Zealand. His nephew the
Holland's a youth & Lechaan (Hon of the Sea) a fly boat ran to the North
side covering neither inhabitant nor animal - Entering Cook's strait
he anchored in Amundsen Bay where he lost a Tartan master & boats crew
from an attack of the natives. Before leaving he fired at two canoes -
Sailing along the E coast of the North Island & passing Cape Maria
Van Diemen he made three little islands & on the 6th January 1643
came to an anchor in an offing on the North side of the Island & in
allusion to the day Epiphany he named them three Kings the report
Christ having on that day been visited by the three Kings or wise
men of the East. - Some Chapp, Solon geese Black Petrel & Boobies with
flying fish seen to day.

18th Feb. 34. 21)
Long 172 - 48)

10 108

August
1841.

At Sea.

Bay of Islands.

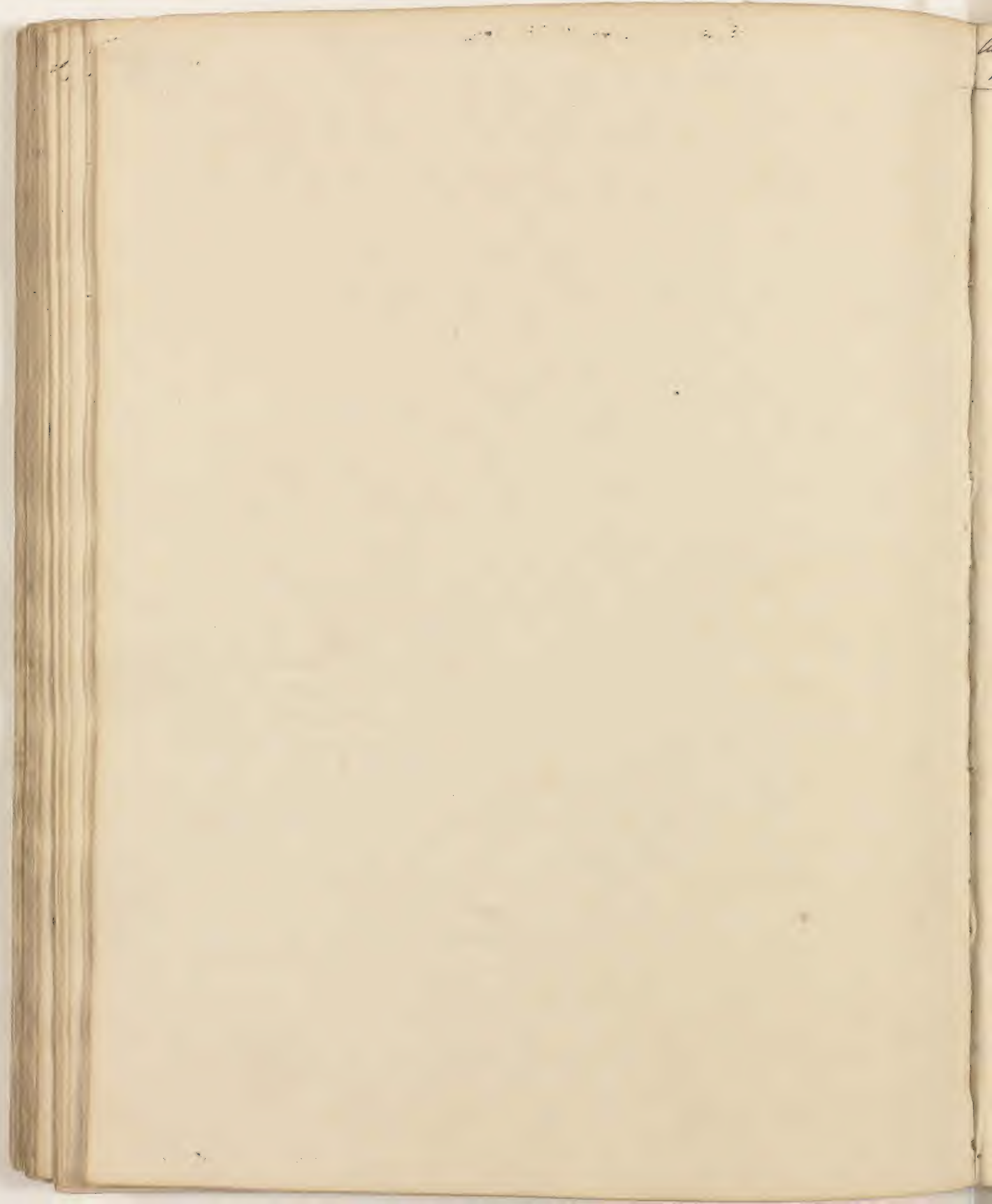
156

- 17th Lat 34. 29. Long. 73. 16. (Many like Petrel, Dotter & Albatrosses - (We are nearing the land very fast which consists of bare rusty colored hills about 1000 ft high ending in steep precipices towards the sea sparingly covered with fern - Cape Maine Point corner - North Cape conspicuous - Many Dotter, Black Petrel, Porpoises & Albatrosses) all between brackets add 1 day 16th -
- 17th You must be able to see the land lying along the coast with sound N.E. by E.
- 18th Having lay to all night this morning the ship's head was put towards the land - though the weather was thick by 9 AM we had land on both beams consisting of rocky bare capes & leaving up we saw into the Bay of Islands with thick & very squally weather tremendous rain & violent gusts of wind so that we could see very little of the country - Several vessels were lying off Konaika the chief town on the N.E. side of the Bay & among several whales a Humpbacker - the York Town Capt. Galick. Passing with our ship in the caps far above the anchorage we came to the Kawa Kawa river in a strong tide & thus being the first harbor we ever came into with a fair wind we were soon anchored the "inner" station Point Omatta flagstaff 1841 4th Twp. Four P.M. All the afternoon & evening it continued raining hard.
- 19th A dense mist covering every thing so thickly that this morning we could hardly see the horizon - calm - though it began to rise with a S.W. wind & soon revealed the beauty of points & bays of the Bay & the morning was cleared by a warm & cloudless forenoon - A canoe coming along side we with some difficulty ventured a visit to be landed intelligible to a village gentleman. These canoes are drawn out of a single piece of wood thick & oblong wedge shaped below about 18 inches broad & 20 feet long with no thwarts the bow & stern very raking & obtuse - very crank - The paddler sits in the stern an oval shaped short faced fellow with a flattened nose & high cheek bones & pointing lips & turns the water alternately on each side with a short paddle having a lanceolate ^{double} blade, squatting in the bottom we reached the shore in safety though we rather overboarded the little craft which sped with fleetness over the bay. Landing on the N. shore of the bay we started for Pahiia the principal settlement where I had a letter to deliver to Mr. Colleson the printer to the establishment for Capt King. The shore was alternately sandy or rocky the rocks being black slate & or trap which here & there runs out in spots. The shells & other rocks were productive in shells - a Hermit crab - some Tadpoles, Gammarus, a fine shrimp, some Annelids, Chitons & Crabs & a curious little spider that skims over the surface of the salt water - Sand flies were very abundant & annoying they were small black flies that settle in swarms especially on the hands when after sucking their fill of blood they fly away leaving the spot of blood flowing - Numerous valleys lead down to the water divided by low bushy hills with steep ^{clay} banks below the water above the high water mark.

August
1841.

Bay of Islands New Zealand.

19th The plant on the beach was the *Salicornia hederacea* growing on the rocks but within high water mark but the specimens were small - Above this at the foot of the cliffs were the *Mitrasacme tomentosa* & *Argemone latifolia* the former a very fine tree coming into flower which like the Auckland Island one has the flowers terminal & the bark furnished with large tufts of pendent rhizomata. The bark is whitish the leaves deep green with tomentose undersides its whole habit was that of the southern one mentioned & they doubtless form a separate genus perhaps peculiar to these Islands - Among the low woods a pretty *Leptospermum* with white flowers is very common & beautiful. Turning sharp round a rocky point after a miles walk we suddenly opened Pukia Bay & were much struck with the beauty of the spot. Above a long sandy beach on which a long reef was rolling & a beautiful cove of about 1/4 mile round were some pretty white brick cottages fenced in with gardens & a long low wooden breakwater behind the water & backed by some swelling wooded hills & valleys. The spot was retired in the extreme & shut out from all publicity - Several neatly & well dressed clean natives were at work in the gardens & some other healthy & strong young men were lancing a bush - Some little English girls (with long tails like *Monileura hawaiiensis*) were playing about one of the doors & altogether the place wore an air of English neatness & comfort that was pleasing in the extreme while the long canvas & black faces added interest & gave a foreign aspect to the scene. Asking for Mr. Colless as from an intelligent native we were directed to a square brick one storied cottage with a high roof in which was the printing establishment as well as the owners dwelling. Entering the printing establishment I was surprised to find how complete all the arrangements were they seemed all very brief & the sheets of native writing lying on of the form when I was going backward & forward & I thought I was wont to act as printer & devil to my father in the sitting room was a portrait of poor Allan Cunningham & a pretty lime tree in a bottle as also some of my father's botanical works on a table - Mr. Colless's second son very kindly & talked some fine collections he had sent home & of the gratification their immediate acknowledgment gave him from Glasgow as who of Bristol & Lady Franklin's visit. The difficulty now going about the country arises from the scarcity of natives who being few in number are monopolized by the British at Korarika where their intercourse is not improving to the blacks - Any part of the country may now be travelled over with safety the natives invariably offering they never steal from the European as who fear none but the



August
1841.

Pickie, Bay of Islands.

158

a depressed set of remains & the outcasts of Sydney - If shells for collections
has 150 species with many insects & minerals in his little garden I saw
the Cyperus carpus - Chenopodium pumilans. Thlaspi Forsk., a little
Glinnia from the southward the Phormium tenax a curious far shaped
variety of it with striped leaves like gardeners' garters & a new species
of the same genus - Some double sweet violets pleased me beyond any thing
not having seen the flower since leaving home - Some natives here
met us shaking hands all round smiling very good natured & seeming
very well satisfied with themselves & others. From his house we went to
look at the Chumka very neat low square white walled building with
benches, clean wood floor pulpit & organ complete; it is generally well
filled with about 100 natives who attend English service in the morning
& natives in the afternoon - Some small houses in the neighbourhood some of
a good build & I was told they were Chilian - Leaving Poria we walked on
passing a boat which was taking on board some geese round in a curious
manner being enveloped singly or in pairs tail to tail by snatching their
heads only, being executed which gave the living bundles a most appearance
Seven native women & girls came up & commenced jabbering their songs they
were short & square built broad shouldered copper black & very dirty with
tangled black locks that hung over the backs of their heads & were cut short
over the forehead Some wore ear ornaments of bone & another had a short
thatched grass petticoat very thick & clumsy - All the older ones were more
or less tattooed especially on the sides of their thick fleshy lips
which were in no wise tempting, they smoked & some carried children gipsy
fashion on her back in an old counterpane - The shores of the bay were covered
with Turnips, Radishes & cabbage & all rose to root & seed & among them
a fine native Euphorbia the E. glauca Forst & a smaller one - Other seaside
plants were the Mazoporus latum a low very glossy green tree. The Logan -
carpus, Laticornia indica an Arabis, Lesium monogynum & the Antrodia
before mentioned - Passing another bay we came to some flat marshy land
& turned up towards a rounded valley, bounded by some hills The rich
soil of the plain first showed a Gymnotum pycniforme, a Phragmites & some
Melipice with Procy & Fernaria hygrometrica. The ground was very where
covered with a Leptocarpum a beautiful flower Pisidium pilosa L. Pha-
tage varia? a Sporis carpus, Epilobia, Pellaea nodica & Ceratium vulgatum
At the foot of the valley was a large swamp breast high with Sagittaria angustifolia
& Cyperus subulatus & linear leaved Drosera & many marsh plants
Hyacinth &c. The hills were steep with rounded or conical summits formed
of a reddish yellow stiff clay which formed long land slips carrying down
the farms & to the swamp below - They were covered with Pteris caudata

August
19th.

Bay of Islands, New Zealand.

1041. *Doodia aspera*? & other ferns. The gully which ran among the hills was very deep & thickly wooded & at the bottom where the *Gaussia glauca* a fine tree fern grew was especially dense & dark. The trees were the *Corynocarpus*, *Vitex littoralis*, *Freycinetia exaristata*, *Procris brachyandra*, *Pittosporum*, the *Daisy daisy plumosum*? & other trees on which grew many ferns & Parasitic plants. The ground was covered with the *Acaena sanguinolenta*, *Stegania*, *Asplenium*, *Hypnum* & many other Ferns which preponderated above all other vegetation. *Asplenium* *littoralis* grew in the more open ground with a *Worm* among the *Rubus Schindlerioides* crept over every thing & together with the creeping plants often rendered the thickets impenetrable. *Asplenium* were absent almost as was *Leucopogon fasciculatum*. The *Podopium truncatum* was very common with some Lichens - A little green bird was singing lustily among the woods & a pretty fly catcher? with a fan tail of white & grey feathers. Returning as we came we found a whole party of the natives opposite the Mission houses who were dressed some really very handsome fellows with white tattooed faces - One chief had a carved Shako with in his right ear & another a Parson bird skin in his - some of them went through some steps of a war dance which appeared to me to consist of violently stamping the foot on the ground in time & with a regularity making conventional motions with the head & hands & singing a monotonous quick howl - Opposite the ships we found a much larger canoe to take us off with a man & woman who had a fine dog & two mat baskets one of Potatoes & the other of Cabbage which are here abundant & good. The man wanted an experiment with him for his trouble but did not seem to know the value of money & soon came down to a couple of shillings - He could not speak English & indeed I am surprised to find here so few who can among the natives. Many of them at Parhia however could & also were clever & industrious for we tried them & found one labouring man who added up ~~down~~ on the sand very quickly doublets through the labour of the *Thapsia* vines.

20th Accompanied Mr. Sabely & Whymethy in a boat up the Lave Lave river to the first one of sheep. After passing the *Paraka* the river gradually narrows through still nearly a mile broad its banks are steep & rocky with numerous Mangrove swamps in deep bays, the water muddy & dirty. The trees on the banks are small & generally confined to the little valleys in the depths of which they gain a considerable height at times - These valleys however are of a bright green tint even now in winter time which strongly contrast with the lead green woods of the *Tamamua* & of the *Huon* river which this in some points resembles through distribution of the noble timber which adorns their river banks. Proceeding about

Aug
1841.

Bay of Islands.

159

two miles up we came to a very neat little hut belonging to a Capt. Bateman the Post Office store on the banks of the river - About a mile further up we landed at a Capt. Swain's & crossing a hill came down to a Mangrove swamp said to be full of snakes but except a few lizards we saw no birds - The swamp at the back opened into a valley up which we went. The brushwood at the back was a clumped with the large *Lyopodium densum* *Drosera* *brachyphyllum* *brachyphyllum*? & *Qualtheria antipodica* with the everlasting *Pteris* & *Leptopteris* - In the wood which was rather dense & very steep were some beautiful *Agave* *phylla* & other ferns - *Lyopodium volubile*? *Polypodium* *articulatum* climbing high up the trees - *Polypodium* *pusillum*? *Hypolepis* *superba*, Several *Lomaria* & *Asplenium*, *Adiantum* *obovatum*, *Asplenium* *lucidum*? *Pteris*, *Adiantum* *affine*, *Trichomanes* *venosum*, then a few *Agave* *phylla* & above all the *Lyopodium* *articulatum* which throws up stems about 12 ft high with a crown of leaves at the top - In reality these tree ferns pale far short of the *Trichomanes* *arborescens* which I have seen attaining a height of 100 ft with stems pale circumference of a thick brown color & beautiful tufts of leaves of a rich yellow green & a graceful wave - While these are miserably bearing gutted lanky things with black stems a few inches in diameter (say) & a naked tuft horizontal dark green fronds with silvery undersides - the latter their only beauty. There were also many specimens of what I took to be *Arceuthobium* *saxatile*, with *Asplenium* *phylla* *clatrum*, *Arthropteris* *clatrum* & *Cordyline* *australis* which grows on the branches of trees in immense tufts sometimes crowning one with an immense mass. Among other trees were a *Cephaelis* *floribunda* & the *Phyllanthus* ^{*richardsonii*} ~~*richardsonii*~~ of small size however which I took to be the *Freycinetia* growing up a tree near the head of the valley, the little *Platanus* *hookeriana* was in full flower of which the chief were a *Quercus* *glauca*, *Racopilum* *tomentosum* several *Lichens* & *Agave*, *Hookeria* *quadrifaria* & *reticulata* some *Poa*, *Lygodium*? *Hookeria* *setifolia* & *plana* *folia*, several *Schistocarpus* - & some more minute mosses *Lichens* & *Fungi*. When going to the top of the hill I collected a few more specimens of the *Phacelia* seen the day before, but it grew sparingly - The view from the summit was of a succession of low round topped hills covered with fern & here & there clumps of wood - All along the tops of these hills the natives have their tracks & where they walk in Indian file but I saw no signs of the fortifications that Mr Darwin mentions - And even in the neighbourhood of the villages hardly any cultivated land is to be seen - Keeping along the top of the hill towards a high one we crossed several heights & at length came to a wooded saddle looking

Aug
1841.

Bay of Islands.

down from which into the valleys the feathering summit of the Gastrea
& the curious Leodolimus on the summits of the dead & live stumps &
trees had a curious & beautiful effect among the bright green foliage
which remarkably reminded me of Diana's peak in La Helena or some
trees here the bark on the stem was in print a little green leaved Discomma
which I had found I think on Dr. Buchanan's Island - From this
we ascended to the top of the hill about 700 ft above the sea & enjoyed a
magnificent view of the bay, truly a bay of rocky islands & the sea beyond
the river Rawa was a winding up among wooded hills & to the
Southward & Westward some detached ranges of blue high craters shaped
mountains all together the view was very fine though deficient in any
striking point, it was pleasing & beautiful but not grand or particular.
Near the summit we shot a Duck & I found the Thellmitia Horstii a
flower which is of a very pale purple or nearly white & a small Wipia
among some stones - From this we turned to the Westward & descended
to a mangrove swamp at the head of the Bay. The Swamp was
left by the tide & very much intersected by numerous shallow streams over
which we leaped & were nearly bogged at times the mud is of a yellow
brown color out of which the Discomma Somneri grows forming a
thick even thicket of trees about 12-14 feet high branching from the base
with smooth rounded dirty grey trunks & branches very sparingly leafy
under foot the mud was covered with the solitary shoots of the plant
from 2-4 inches high all muddy. Delicious Agaves were abundant on the
shore & on the trunks of the trees while cockles & a Tridacna covered the
ground. Some Kingfishers were common near the sea & the Myiophobus
was abundant. No Prophas but some black ones looking like Prophas grow on these
somewhat looking mangroves, nor did I see any Prophas. In the middle of the
swamp were some large mounds of a vesicular clay like that which covers
nearly all the Bay from quite distant from the hills which are Trap - Looking
around the Bay we came to some wet rocks where the Lepturus torosus
in arceus was abundant & is a very handsome insect for its bright
though pale green foliage & the large size of the capsule. The beautiful
Niphobolus repustis was also common with a little Peperomia
perhaps the seviliana Rich. - Further on on a rock there had settled
an immense swarm of flies & another on a smaller rock near it which
brought them there I cannot tell as there appeared to me no attraction
of animal matter on the bare shaded face of two particular rocks which
they entirely blackened by their quantity. The rocks were trap within a
few yards of the sea & the one in particular on which they settled out of the
two is most abundant and might have weighed 3 or 4 tons, thousands of
similar rocks were near it or within there was not a single fly. nor did
they seem to be doing anything about a mile further came to a
similar swamp - A little flycatcher was hovering about them.

Aug.
1846.

Bay of Islands.

160

During the day we came to the banks of the Caura Caura river opposite our ships at the residence of the American Consul who rents his house for \$600 a year from a person who has been in the colony 23 years & who came out as carpenter to a whaler & has since by business &c. amassed a great deal of money. I kept one of the missionaries here is the oldest resident in New Zealand. He is a Scotch man & was a school fellow of our Governor Abernethy. He very civilly gave us a boat to take us on board.

- 21st During plants all the morning. In the afternoon landed at Point Amata where there is a small depot of 10 soldiers the main body of soldiers being at Auckland which has now become the seat of government & the residence of Capt. Hobson the civil Governor. - Crossing the hill descended into a little valley running up the country from a mangrove swamp full of trees & with the Vitex littoralis. Two of the trees grow here the Dacrydium cupressinum & Dammara australis. The former was a pretty young tree with pendulous branches & the latter had a stem a trunk about 20 ft high sometimes only at the top of a rich red brown cylindrical & straight, about 3 feet in diameter - some little flycatcher growing back 10 feet from the ground was seen shot in the skirts of the wood. The Polystichum sphenolobium Hook grew sparingly on steep banks of trees with an Antrodia among which was a little Polypodium. In the lowest part of the valley the pretty Polystichum sphenolobium was abundant on the ground, stones & trunks of trees with Hypnum &c. I saw several other ferns near the head of the valley the little Phacelium was abundant and the air was thick with reniformis? but not in flower. In the top of the hill we came to one of the numerous little native paths which enter into the country & found a little signal made of two sticks splined together stuck into the ground with a bit of red cloth at the top - a practice common among the natives. Descending to the beach opposite the ships & breaking a piece of rock near the sea found a species of Persea? living in such situations.

- 24th A Sydney ship brought letters from home & the Tonga but Admiralty had what came from by Van Diemen's Land.

- 25th Walked along the beach opposite the ships to Parihia, found several seaweeds & a curious epiphyte growing on the top of the salt water and a pretty Antrodia plant not a Commersonia flower a species of lythotylis near reniformis M. At Parihia made arrangements with Mr. Colenso to start next morning for the falls of the Kidi-Kidi river.

- 26th Left with early this morning for Parihia found Mr. Colenso already waiting with a nice boat & a crew of 3 boys to proceed on our excursion - Sailing down the bay we landed opposite the entrance of the harbor at a point on Mr. Mackenzie's estate called Waitangi it was a low clump of black tree ferns from which a dangerous spit runs out to sea. In these rocks several Proserpinaca & Pometia with guadalupeana leaves Salsola indica, Sambucus littoralis & the large Lupinus all seems slightly above high water mark. A lot of which do not leave the sea coast.

Aug
1841

Keri Keri river New Zealand

Above them were the *Myosurus latens* & *Polypodium tomentosum* while
the rising ground was a usual densely covered with *Leptospermum* &
Pomadourus sinifolia & *Pteris* - A curious little branched seaweed perhaps a
Chondrus was common on the rocks & on the side pools a kind of great settler
& seaweed. A few insects were found under the stones - some *Geophila* &
a large *Forficula* a tailless scorpion & small *Scelopendra* - *Junco montanus*
formed large dense tufts - with a small *Sceloporus* & other lizards. *Aspidochelone*
Endymis & *Pharosium* *tenax* We now commenced sailing up the bay
for Kaitapapa but it blew so strong that a bulwark of ice got up between
the opposing hills & wind & lowering the sail pulled for Pōhā.
Kaitapapa at the mouth of the Keri Keri. You see from Pāhā - Lāwai
as you round some steep trap peaks but found nothing to interest. The
watermen commenced their homeward by Kaitapapa & fire to boil their potatoes
before settling themselves they strip off their trousers & coats & sit up in a blanket
until which is accomplished they do not seem half comforted. Near
the mouth of the river are several small islands & large shoals which at
low water extend nearly across. I was much surprised to see the extensive
operations the natives had conducted here especially in flattening the tops
of the hills & digging huge trenches round them & the clay soil almost
all of these hills. There were very many bone marks of fossilizations. Their
mode of warfare was very disgusting & consisted in taking possession of & holding
these hill tops as long as they could, depending themselves with simple
unbarbed spears of wood which are however so slender that the forest was
generally to break off & the curious stone club called *Meri*. The attendance
was close quarters & when they were forced to it, though always with
extreme reluctance, they fought with savage ferocity. They invariably
kept along the hill tops to avoid ambushes of which they stood in great
dread. Many of their cuts & clearings might easily be taken for marsh
pools water levels or other geological formations. - About two miles above
the mouth of the river it is intersected by two parallel narrow black trap
dikes about 200 yards across & leaving here & there passages for boats they are
about a mile long & project some or less above the water. A small penguin
is not uncommon here which swims like an eel. *Gamete gull* & *Tern*
were also abundant. About two miles further up we landed on a small
rounded island & wind channel a narrow wind way between the shores for
the real channel is very narrow & compared to the North side of the river
bounded by the South by an immense flat sand bank left dry at low
water & abounding in cockles. The island was called *Taranaki* & formed
of clay stone on it were the *Pteris* in immense abundance. - *Senecio anglicus*
& *Wahikerepa* the pretty *Pionaea* several *Moss* *Chaetia* - *Antennaria* in great
abundance & above all the magnificent *Clas* - *Thous* *Junceus* forming a
low bank with magnificent masses of crimson flowers the leaves were
much eaten by some insect. - The top of the island was flatland & was
for purposes of warfare & it was lately sold to an Englishman for £3 for
what purpose I cannot conceive it is not more than an acre or two.

Aug
1841.

Piri Piri New Zealand.

161

about 3 miles past the Island the river narrows to about 200 yards across & seems
though mangrove swampy amongst low woods shaded hills. In rapid on a low
dry green spot where the *Phoraria* trees flourish I was told that they were left
interested from some sacred or sacred to the memory of a chief wife buried there
the natives from motives of fear & superstition dared to gather any of the flori-
fuges of the dense grove disappeared & the *Phoraria* as well as *Myrica* began to
be common along the banks it was a small branched tree with
numerous pendulous yellow blossoms - The rocks of the bed of the river are
generally trap often overlain a band of white clay, called here pipe clay & used
as such - Passing a tow fortified hill the residence of the late reserved chief
Kanga he came to a bend of the river & after an hour & stormy passage
were kindly welcomed by Mr Kemp. The Missionary resident at here here
(previously Kikole Kikole) & a small here I saw many boats as can be seen higher
& we did not anchor opposite a large stone two-storied building, built by the
Missionaries in which they store their stores for trade & with the natives - The
site of the settlement was very naked the only trees being those in the vicinity
around the house consisting of peaches apples &c. - The floors of the rooms were
covered with mats made of the *Phoraria* & the tables with others of a finer
description woven by the natives as cloths & generally, were covered
by a dirty English blanket. The borders of these mats are often beautifully
worked in with patterns of black & red the former color produced by the
bark of the *Phoraria* human & the latter from roots picked from distant
spots. These mats were common & much higher price here than they should
be - I found it is very difficult to procure a really good one under £2.00
& the same may be said of their clubs axes & other carved instruments -

27th The morning broke beautifully though some heavy clouds to some extent
prevented a clear day - Saw a magnificently tattooed chief who was as
usual wrapped in a dirty blanket his naked forehead for he was
adorned in places even tattooed up to the crown of the head a beautiful
diverging curve from the meeting of the eyebrows. He was of commanding
height with a fine open good natured countenance & in talking & looking
his expressive gesture & soft flowing language appeared quite western
On asking Mr Callender for an explanation of the barange he gave me the
understanding that the natives were in the habit of picking up enormous
quantities of Potatoes in winter work frames to make which flesh larger
sometimes several trials under order they then wash the whole hole & on
a given signal they all pull to pull & in a few minutes, sent in
the capacity of their holes that an enormous quantity of the roots were
harvested - The procedure that one in mind of the harvest some of the
& the I missed over time further - The necessary consequences of these
facts in a country where the soil is naturally ungrateful is a famine
with its concomitant train of evils & it is on this account that the Missionaries
who are any thing but aware to the natives retaining their ancient manner

Aug
1841

Halls of the Keri Keri river New Zealand.

events have long been in disavowing to dissuade them from this feat. On
the 11th telling this chief that he profured such meeting to Church
the spirit immediately answered that there was no more harm in his
going to the feast than in the missionaries attending committee which
like our latest facts of the terminate in a succession of agreeable reverses.
Before breakfast about a dozen little native girls met for morning prayer &
sang a hymn very correctly & with voices of a sweet fuller tone than the throat
of their equals in Britain would produce. The river here is not much
more than 30 yards wide & we crossed it below a little falls & ascended the
opposite bank to some flat hills covered with short fern & the usual
fern land plants & totally bare of trees. Proceeding up the river towards
the falls of the Keri Keri saw immense quantities of the *Phyllocladus*
torosii & the leaves of the *Microrhis* - *Pieris heterocaulis* & *attenuata*
the former I can scarcely suppose to be an introduced plant - Near a
marshy place the *Gleichenia hirsutifolia* grew 3 or 4 feet high.
A walk of about a mile brought us within hearing of the falls & we soon
afterwards sighted it. The river in the shape of a rapid stream some 200
yards long & said to be precipitated itself over a mass of trap/basaltic
columns 75 feet high is one clean fall in an immense wooded basin
recesses the flood & a beautiful rain-bow spans the dark ravine.
The effect of looking down over the falls into the slope below is very pleasing
from the variety of foliage from the dark green *Coprosma* & *Coronilla* creepers
to the lighter glaucous *Lauri* & the pale waving fronds of the *Trapa*
which just out like magnificent plumes of feathers. Above the falls the
river runs among scrubwood & then the little *Quercus fluviatilis* & the
Drosera *repens* *Lepidodermis* abound. Descending by a narrow winding
path into the ravine the transition from a bushy fern land to a deep
& rank forest was very sudden & we at once plunged into region of *Proserpinaca*
& *Ferns* though a careful & practised eye could with a little study define
the limits not only of the great claps & orders but of many species with
accuracy. At the base of the valley the masses of trees consisting of both
Gleichenia glauca & *medullaris*, *Lyonia*, *laevigata*, *Homophyllum*, &
Lonicera *Fraseri* which here assumes a tenderest appearance was quite
remarkable. The *Lauri* *laevigata* & another formed large trees with the
Pityrogramma & *Pteris* *acrostichum* though there were no timber of any
great size. Proceeding upwards to the falls the narrow path became
almost dangerous from the quantity of water & the slippery slopes of the
columns - A large cavern runs about 20 yards under the cascade formed
by the removal of a large bed of soft clay about 12 feet thick whilst the
immense body of water rushing on a mass of hexagonal columns held
together merely by the cohesion of their adjacent sides inspired a feeling
of dread as on feeling oneself under so enormous a mass in subterranean
held together by so all appearance such a precarious slight organic matter
must at some future time prove too slender a support when every thousand

of rain of rain will be precipitated with a fearful shock into the black abyss beneath - The cavern was very dark & produced some curious forms & shapes a very large slender *Marshallia* & a beautiful little *Psychotria* which lined the roof - in which also grew the *Centrosea depressa* &c. - Under the false water itself the little *Spilota latifolia* & *fr. aphelium*. *Persea* were common with the magnificent *Hydnora Menziesii*, *filicoides* & *concolor*. - Followed the river down on the opposite side is a dense jungle among which the *Lychnis* & *Lychnis* show out their rough ring stems - Found an *Eleocharis (filicoides)* which I had several times smelt but which from its sameness of color & to the *Juniperus* & some life more was easily over looked the name is certainly most appropriate though I cannot agree with Mrs. Cunningham as to its nearest affinities. The little *Polypodium* *pygmaea* was very abundant with the *Erina*, *Imbricaria* & among other plants new to me *Impatiens innumeralis* - ascending from the false found the *Chalochthamnium*, *Arianthus* & little *Stenotaphrum* very abundant - Birds & insects were very scarce - Followed the river for about a mile above its fall - the banks are lined with the two common *Dracopis* - *Knightsia excelsa* & the *Persea* tree - - *Leptospermum* on which the curious little *Chrysomelid* *antipodensis* grow & *Grasshopper* *antipoda* with some *Phonocarpa*. - Descended to the valley to take a last look at the rich variety of vegetation of which the common shrubs & trees are *Lauri*, *Persea*, *Leptospermum*, *Leucopogon*, *Cordyline*, *Ficus*, *Podocarpus*, *Antea*, *Prasidylotia*, & *Metrosideros* a few - Returned to the camp by dark & enjoyed a pleasant sail back to the *Merica* landing at *Taranaki* as we passed for specimens of the *Chrysomelid* -

11th. Walked along beach to *Pichia*. At *Mania Bay* & which the observations on land there is an extensive flat of which a narrow river runs & a broad sand flat extends for several miles across the mouth of the *Lawsonia*. On the margin of the flat immediately at high water mark are an immense quantity of the roots & trunks of mangroves which are now exposed to a depth higher up the flat where the river forms a large swamp. A few shells & I scoured an *ostracum* up on the beach - collected some *Proserpinaca* & made arrangements with the natives for starting on the morrow for *Wicaddi*. - Close to the high water mark on the beach beyond the observation are three or four solitary trees about 15 ft high of the *Cordyline* under which the unfortunate Capt. Mavor's body was cooked & was afterwards as is customary with the natives removed to a distance to be eaten. An old man was lately slain known to the inhabitants who was present at the time of the murder which was said to be owing to the French cutting wood on a sacred place - The ground about these trees has been tilled ever since & the beach known by the name of *Marion* - The extensive sand flats are the favorite resort of numerous cockles & other bivalves, hence the natives of one district purchase the right of gathering them for a certain time from the owner when at spring tides the many hundred canoes come down the river & the women immediately commence collecting, sitting around

Sept.
1841.

Bay of Islands New Zealand.

piece of stick to turn up the sand & picking up the shell fish with extraordinary dexterity. The men never or hardly ever assist their helpmates but scunter along the beach or making a fire commence roasting & eating them, they are called *Pepis* & as often eaten raw as cooked when they are opened by smashing them one against the other.

2nd

Sh. 7th Mr. Macdonald came along side for one with his boat - The morning was foggy in the extreme & calm showing the sea quite white - proceeding up the Kawa Kawa river about a mile we turned off to ascend the *Waiari* the a light breeze springing up & dispersing the fog in this the broad part of the river. The rich vegetation along the banks began now to be evidenced by the *Pomadouria Kumeraho* coming into flower, a plant which was much a favorite with poor Cunningham. That the natives always called him by its specific name - Popping Capt. Watmans some extensive burnt forest were pointed out to me on the hills, caused by the natives firing indiscriminately any part of the ground where they wish to commence planting & setting the fires run into the whole forest where immense tracts of land are laid bare & timber of immense value wantonly destroyed. From the East the river turns up to the Southward & narrows considerably among some high densely timbered hills - The scenery here is remarkably beautiful, from the numerous deep valleys & the richly wooded forests that run out into the water - The fog still continued to hang in the low sheltered parts of the river & the sun now up caused a curious low snow white rainbow a little above the water. - Here we met the "Torons" boats coming down loaded with spars of fine wood that had been cut in some of these valleys - A little higher up the river ran through a long flat muddy bed covered with low mangrove trees amongst which were numerous double Island geese & some geese fed on the shell fish. These extensive mangrove swamps so often occur where the salt water meets the fresh in these rivers above which they run with more rapidity through deeper channels & accompanied by a marked difference in the vegetation - Through the trees glimpses of peaches in full flower where petals in some cases nearly covered the stream showed that we were approaching a Missionary station - It being low water we had some difficulty in getting up to a small creek where we put the boat & crossing a low rocky swamp came to a large stockaded Pah, which though contiguous to the Missionary settlement was I was surprised to hear not Christian - At the *Waiari* station we were kindly welcomed by Mr. Makua & then proceeded up the Valley the path that had been cut for the transport of timber through much good cultivated land, we passed also an extensive brick field where produce was good as was expected. - Both the *Gaucha medullaris* & *Dicksonia squarrosa* were not uncommon in the little woods we passed through & a pretty sweet scented *Clematis*. - The *Corano caspius* now coming into flower was a common tree & amongst

Septor.
1841.

Waikari River New Zealand

163

The low herbage with several introduced plants over the little *Lagenophora*,
growing among our English Daisy, & the *Cardamine hirsuta* - Entering the wood
we at once plunged into a dense vegetation of tall tree ferns *Coprosma*, *Kingia*
Lauri & all the large trees of the forest growing in a rich vegetable mould which
overlies a stiff clay soil. - Along the bottom of the valley the Ferns & mosses
were in immense profusion. The *Hymenophyllum* especially on the damp rocks, trunks
of trees & banks. The noble *Hymenophyllum* *huasii* is abundant in such situations &
a beautiful *Hodkessia* with a crested teta. - Further on we came to a little waterfall
lined with *Torreya*, *Podocarpus* & other ferns. The *Arceuthobium* was here abundant
with the *Phlegmaria* *parviflora* & *Lygodium articulatum* which two latter
form an almost impenetrable jungle. The *Phlegmaria* throwing up its long
black canes which cross one another in every direction running along the ground
& tripping you up at every step whilst the *Lygodium* hangs down like a
dense living mat from the branches which like the *Lycopodium* in P. N. and cannot be
broken or burst through but must be cut. In the damp soil close to the
stream of water the *Platanus* covers the ground with a rusty brown foliage
amongst which the *Asplenium* *pinnatifidum* *Thomaria discolor* *apocynum* are
abundant forms. Very few birds but this glittering among the trees & the various
little chattering green birds were seen except here & there a solitary pigeon among
its heavy flight among the trees with a whirring flap of its dusky wings. - *Phalaropus*
New some but *Phalaropus* are said to be in summer abundant in such situations.
Ascending the side of the hill from the valley the steep banks were covered with
moss & ferns whilst towards a drier situation very little vegetable matter
covered the hard stiff yellow soil amongst which much of the larger timber
delights to grow. The *Phyllocladus* *trichomanes*, *Podocarpus totara* &
Leucophaea were all abundant with a little higher up some noble *Kauri* trees
Dacrydium australe with trunks of 20 to 30 feet in circumference. Its foliage
& branching are peculiar & different in the young & old trees. The *Kingia*
excelsa is common in such situations & becomes a very lofty tree. *Lauri* form
the most extensive portion of the other lofty vegetation under which the common
shrubs are *Arctostaphylos* - *Myrica*, *Salix*, *Leptospermum*, *Leucophaea*, *Gastropoda*,
Dracopis, *Pittosporum*, though the common tree fern *Gastropoda* does not
here attain the height it does in the lower valleys still it covers a much greater
portion of the surface & its fronds if anything are through shorter than in some
superior. The herbaceous plants in these situations consist of some Ferns
the common *Salix* & *Stichomania* *Loxaria* *Tricaria* & others but as soon the
drier woods. - The *Antrodia* climb up the larger trees their trunks closely
appressed to the bark for 10 or 15 feet when they branch out into a dense
rich dark green bush, their presence does not always materially affect
the jet tree they encircle. - *Stichomania* abounds more in these situations than
elsewhere. - In the horizontal branches or fallen trunks & of the trees the
Larrea & *Dendrobium* *Limnophora* are abundant with two other *Parasitica*

Sept.
1841.

Waikari River New Zealand.

orchidea & on the ground the *Pterostylis Marchii* & another smaller species, the *Licantides* n. sp. which delights in drier places than the *S. rivularis*, & a small *Cyrtostylis* both growing on dry or moist soil, under the shade of the larger trees - At the summit of the hill about 700 ft above the sea we were disappointed in finding the wood so dense that no view could be obtained - a potato plant left by some natives was the only novelty seen - Descending to Mr Walker the view of the valley with its peaks, wheat stacks, cattle & brick kiln alongside the fortified fort was interesting. - The soil requires much manuring before it is good for the cultivation of wheat or other better grain - Maize does well in the lighter soil - Potatoes in one good crop exhaust the ground Peaches thrive amazingly Mr Walker having in one season gathered 100 bushels from the trees round the house they are considered very good though inferior in flavor to the English ones, they sow themselves & it is a common practice with the natives to propagate them by seed Apples grow well when better stocks & cuttings are established.

The Cape gooseberry has covered the ground in some places to a great extent - Better Plums, Raspberries & nor Kidney beans have done well with Mr Walker - The houses at this station are what are called Rapoo houses, & the walls are made of the *Typha* tied up in bundles with the *Phormium* or *Syagrum* inside it is white washed or very neatly in some instances covered with a smattering formed by interlacing the segments of the leaves of the *Areca* of which the roof is formed & then tiled with shingles made of the *Dryas* exclusum - The kitchen is generally detached from the building in case of fire, or if a fire place is introduced it gets out a considerable distance from the gable is built of stones with which also the neighbouring walls are cased.

Friday Early in the morning I was roused by the lively notes of the Tui & other birds common in the neighbourhood & getting up walked round the establishment - A nice sweet briar hedge runs along a considerable enclosure & promises well as does another of the common *Myrtles* or *Laurels* in these alluvial valleys where there is a stratum of good soil above the clay some grapes chiefly introduced propagate themselves & afford a good fodder for some fine cattle which however are not benefited by the amazing quantity of the *Leek* which was originally introduced by the French Marine & has found too suitable a soil & climate here, as it sometimes covers large tracts of ground - In this instance a very fine herd of cattle emitted a most nauseous smell for feeding on it instead of the pleasant smell the animals naturally emit - It does not however emit affect the milk or butter which are extremely good Pigs which almost run wild in the country are the standing stock both of the natives & of the settlers they are not however rich & fat like the English breed but lean & comparatively tasteless & the flesh when

hatched cats is much like hutton that it is often difficult to distinguish them in this state - On the coast the natives feed the swinish multitude on New York hams they become insatiable except to the natives to whom no coarse food comes amiss.

Some patches of dense mist hanging among the upper wooded portions of the hills are here considered inevitable signs of rain which soon followed - a succession of smart showers. With a rapid tide we sailed down the channel of the Pomare after looking into the Pak & as the day cleared up we commenced hunting on its banks which are densely wooded with Laurel & among others found the Laurel californica in full flower & a tree of Podocarpus peruviana in fruit a tree of a dark green color & which as far as I have seen never looks rusty untill the dead, which is not the case with the Platanus. These banks are amongst the best localities for Proser which grow under the overhanging branches & roots of the trees abundantly. I was much pleased with a little Polytrichum which grew on the clay soil & had a capsule much resembling that of the Sauronia. Lower down we landed on a small island on which a beautiful Aspidium was found along with a Crupina Plantago & Chenopodium & the Intelea. On the coast opposite we collected a lot of Lichens from one Mangrove tree & on the shore a fine Piscum in full flower with a Delonaea (diversa) & the curious Myrsine krillii in fruit. The Myrsine tatum is flower & some other plants.

Landed at Capt. Buteman's Quack by my plants.

Ascended the Kawa Kawa river with Abernethy passed Pomare Pak which is in very bad order & much frequented by the crews of Whalers & large Prof. ship is near it. Pomare is a chief of very bad character running greedy to a degree & cruel. He considers himself one of the great men of the neighbourhood though of mean origin & directs all the ships that come in draped in military trappings & a gold laced cap on, accompanied with his wives & slaves daughters & children trucked out with as much European trumpery as they can lay their hands on. - I. junior he is tall & thin not well tattooed or otherwise remarkable. - The hills on both sides of the river are nearly denuded of wood by the fire, though nature is quickly replacing the loss. The Knights is here very abundant standing alone the other foliage like an Acacia & Poplar. - From the South the river turns to the North & divides into two branches the S. at a great swamp covered large beds of dead shells, the Kawa Kawa runs South again & the Karatoo up which we went continues to the Westward amongst mangroves & swamps of the Lypha bounded to the South by low ferny hills & to the North by higher wooded ones. - The head of the river is in a narrow dense wooded valley when it runs through some of the Dacrydium excelsum, at a village formed of many scattered huts on both sides of the river with a considerable deal of cultivated land. - Ascended the hills which are well wooded but

Sept.
1841.

Bay of Islands New Zealand. Paraka Bay.

- remained for nothing but considerable quantities of the beautiful
Dasydium repens & the *Glacarpus Kincaid* with which the natives
dyed a beautiful black color. Found a little *Lindaea* in the dense wood.
with abundant of the *Lomaria Fraseri*. Descended to the beach &
returned stopping in our way at a Mr. ^{John} ~~Johnston~~ an old whaling Capt.
who knew John Jorgensen by name being originally a Dane himself
from Batmans weather board. Found that "Hob. Favorite" had arrived on the 2nd.
9th Spent the day looking over Colonel's collection of plants, from whom
I received some valuable additions & information. —
Was sent for late to go with Capt. Bateman ^{with} to Paraka Bay, at 10th
pulled up to the cottage & slept the night.
10th Mounted crossed the hills to the northward of the bay, all of the
Ferns & ferns of trees both in the valleys kept along the ridge when
the paths lay on the hard clay soil descended into a level the soil full
of seeds & the *Gyner* & struck up an opposite very steep ascent & through
a thick wood from which we emerged at the top of a hill which
commanded a good view of the numerous bays, country, all covered in
of barren yellow or deep green wooded hills. Descending through a valley
passed a large mass of pure flint & then it some fine stone & continued
our route to a Mangrove swamp, with its characteristic mud & marsh
plants, which led us to Paraka Bay, opposite an *Itanum* which
separated this from Manawa Bay. The scenery here is pretty, the
beach either partly girt with wood & the landscape or else steep the rocks
partly clothed with low low wood with here & there fine trees of the
Protonotaria *tormentosa*. Large swamps of the *Salicornia* *indica* were
common under which was a little fresh water? *Lymnaea*? Reeling
a canoe from the opposite side a little boy came in a very dilapidated
one with which he perished as one by one from a river which enters the
Bay, but as it was blowing fresh it could not take us across the bay.
Kind woman was how ever a witness of our distress & she accordingly
crossed the Bay, to us in a large leaky canoe, however, after getting a
good drinking we were landed in safety on the *Itanum* among some
huts in great deal of very good land well & very cleanly cultivated
by the natives who were planting their potatoes, ascending the hill we
looked right down upon Paraka Bay & decided fields of barley, wheat
among of which *Maori* *Arach* *Prison* was killed — Here I had hoped to
find some autumn plants & especially some good seasons but
the shores were too bold steep & exposed for either & a lot of *Protonotaria* was
almost all that repaid my toil. Introduced to Mr. Partley & returned
to Bateman's house.
11th Ascended the *Itanum* river with liberty to complete the vegetation

Sept.
1841.

My Kari River.

165

After a short visit by visiting the forest of Sany deer & culm. taking a
native from Loo's Path where the natives came to visit our boat, we ascended
the hills to the S.E. first passing through the dense wood of noble trees
rising to 70 ft is a straight bole of 3-4 feet diameter covered by a smooth
to a perfect circular line - growing in a heavy swamp over which the large
roots are as horizontally, enclosing pools of mud in which the Pteris
marians grow with some other plants. - The shrubby under vegetation was
peculiar but the trunks were generally bare of much cryptogamic vegetation
Some of some women cultivating their potatoe ground - a part of the dense
wood cleared by burning they were cooking the Koomerah & Papp, or cassia
to which our guide very ceremoniously helped bring off while they look
upon it as a matter of course that the men do as they please - ascending
a slope we came to where the natives expected some pigeons Lucania the
beautiful Columba ephedra. which returns to the hills at night to roost
I observed in the morning to find during the spring on the Laurus Tarson,
in summer on the Pteris littoralis, on which I have observed they grow poor
in autumn & winter when they are in the best condition on the Sany culm
which afford even to the natives a means of food.
At this season they are found on the Laurus tree high up among the branches
where they are only detected by the keen eye of the native who sees their white
breasts contrasted against the sombre shade of the tree - when shot at they
scarcely move back or if they do it is merely to fly from one branch to
another with such a long heavy flight that a second shot is sure to bring
them down on the wing. - Proceeding by a narrow track up a valley I
commenced ascending one of the highest hills - the night was dark - after
passing through much cleared land on a ridge where the Pteris littoralis
were common for the natives I entered the dense wood where ferns
predominated & I hoped to extract my way easily by bending back a
few every few yards so as to show the dense undergrowth looking down
hills - after a hard pull through the dense vegetation keeping along ridges
I reached the top but found the wood here so dense that I had to ascend
a Totara tree to be sure of the fact. From the topmost branches the view
was beautiful of the My Kari river emerging as a small stream from
the wooded mountains running through the Missionary establishment
then through the native Paho & Kaho & Mangrove swamps till it formed
a wide stream confined by low undulating wooded hills & finally merged
into the Bay of Islands & mixed with the water of the sea which here bounds
the horizon. A ridge of hills runs to the northward to Cape North
bounded on the E. the valley of the My Kari running down numerous
streams for its distance, from E to S.E. The sea appeared
to the S.E. in the far distance the little island called the "New Kinglets"

Sept.
1841.

11th Just emerged above the horizon. To the Southward & N.W. the view was most striking of an immense gulph of wood bounded on all sides by two ridges, beautiful for the various tints of the foliage but giving the most perfect idea of solitary green & impenetrable forest that can well be imagined. I looked back & thought of the heavy sighs the present little ascent had cost me & turned again to the maps of jungle which has often stopped even armies of the natives themselves when can thread these mazes with wonderful alacrity compared to the foreigners who visit them. To the West were a quantity of wooded hills covered with a slight haze which the sun shed on them of a pale blue tint, along whose crests the noble Kaundi tree was here & there conspicuous.

Taking new bearings my descent was at first easy as long as the broken ferns were found as soon as they were lost, so was the path for though in ascending it is easy to keep along ridges & avoid valleys, in descending it is quite a different thing. I soon found myself in thickets of the *Alca* which was very abundant in such places from 2 to 6 feet high but in which a flower or fruit with here & there immense masses of the *Lepidosperma* which was found of growing where a tree had fallen & exposed a piece of ground with compass & hands after several hours I emerged & as is usual in such cases not very far from the right place, the difficulty of ascending these steep gullies amongst the *Smilax*, *Palis* & *Agave* such as at the chance of finding the top since is hardly worth the trouble for they anastomose so much that few ridges run long in one line - such as there are the natives have many cases constructed narrow paths along them. The guide had found several figures in the lower wood. Retreating to the top after calling on Mr. Baker we descended the river & I soon went on board.

14th Went to *Palis* & walked along the bank with Colman to the bytangi found several *Spilobolus* & an *Opheiodon* in grassy places or little hillsides.

17 Visited with quite some of the hills & valleys opposite the ships on of which in particular is more rich in ferns & other plants than any spot in the neighborhood with which I am acquainted saw several figures & *Agave* - *Agave* before I had visited the same spot to collect ferns & other plants for Mr. Day to whom I sent two boxes for the *Ferns*.

18th Walked with Smith to the bytangi river & after consulting it for some time turned off up the hills to the right of its bank - crossed 2 or three ridges with abundant of the *Leucopogon Fraseri* - all very barren. came to the village of *Kia Patika* or called from the *Kia* & *Patika* flat fish. The natives being accustomed to catch them. The neighbouring river which falls into the bytangi after obtaining some eggs from the natives who form a small village we proceeded several miles up the valley in which the *Leucopogon Fraseri* grows abundantly amongst grass & damp places. Leaving Smith

As cased some holes & dipped into a deep wood which filled the valley & in which the *Dimora Dorey* *clim* *cupressum* was abundant but no other trees - particular, closer along it found Smith had sprained his leg most severely leaving him to return to his patches I ascended another chain & proceeded several miles along its top all so like one another that it required a considerable degree of caution to keep the proper way. The beautiful *Clematis* *indiana* was abundant in the wood but impossible to find except it grew near the margin for though very conspicuous when looking down on a forest when the forest is entered the scene totally changes & the plants make no show against the sky. - followed Smith to the village & returned to Parichia by a narrow road across the hills leading amongst woods chiefly of the *Dimora* & a *Leptospermum* - but being able to obtain a boat at Parichia we had to walk on to the observatory & upon board late at night.

23rd - ¹⁴ ~~14~~ ¹⁵ ~~15~~ ¹⁶ ~~16~~ ¹⁷ ~~17~~ ¹⁸ ~~18~~ ¹⁹ ~~19~~ ²⁰ ~~20~~ ²¹ ~~21~~ ²² ~~22~~ ²³ ~~23~~ ²⁴ ~~24~~ ²⁵ ~~25~~ ²⁶ ~~26~~ ²⁷ ~~27~~ ²⁸ ~~28~~ ²⁹ ~~29~~ ³⁰ ~~30~~ ³¹ ~~31~~ ³² ~~32~~ ³³ ~~33~~ ³⁴ ~~34~~ ³⁵ ~~35~~ ³⁶ ~~36~~ ³⁷ ~~37~~ ³⁸ ~~38~~ ³⁹ ~~39~~ ⁴⁰ ~~40~~ ⁴¹ ~~41~~ ⁴² ~~42~~ ⁴³ ~~43~~ ⁴⁴ ~~44~~ ⁴⁵ ~~45~~ ⁴⁶ ~~46~~ ⁴⁷ ~~47~~ ⁴⁸ ~~48~~ ⁴⁹ ~~49~~ ⁵⁰ ~~50~~ ⁵¹ ~~51~~ ⁵² ~~52~~ ⁵³ ~~53~~ ⁵⁴ ~~54~~ ⁵⁵ ~~55~~ ⁵⁶ ~~56~~ ⁵⁷ ~~57~~ ⁵⁸ ~~58~~ ⁵⁹ ~~59~~ ⁶⁰ ~~60~~ ⁶¹ ~~61~~ ⁶² ~~62~~ ⁶³ ~~63~~ ⁶⁴ ~~64~~ ⁶⁵ ~~65~~ ⁶⁶ ~~66~~ ⁶⁷ ~~67~~ ⁶⁸ ~~68~~ ⁶⁹ ~~69~~ ⁷⁰ ~~70~~ ⁷¹ ~~71~~ ⁷² ~~72~~ ⁷³ ~~73~~ ⁷⁴ ~~74~~ ⁷⁵ ~~75~~ ⁷⁶ ~~76~~ ⁷⁷ ~~77~~ ⁷⁸ ~~78~~ ⁷⁹ ~~79~~ ⁸⁰ ~~80~~ ⁸¹ ~~81~~ ⁸² ~~82~~ ⁸³ ~~83~~ ⁸⁴ ~~84~~ ⁸⁵ ~~85~~ ⁸⁶ ~~86~~ ⁸⁷ ~~87~~ ⁸⁸ ~~88~~ ⁸⁹ ~~89~~ ⁹⁰ ~~90~~ ⁹¹ ~~91~~ ⁹² ~~92~~ ⁹³ ~~93~~ ⁹⁴ ~~94~~ ⁹⁵ ~~95~~ ⁹⁶ ~~96~~ ⁹⁷ ~~97~~ ⁹⁸ ~~98~~ ⁹⁹ ~~99~~ ¹⁰⁰ ~~100~~ ¹⁰¹ ~~101~~ ¹⁰² ~~102~~ ¹⁰³ ~~103~~ ¹⁰⁴ ~~104~~ ¹⁰⁵ ~~105~~ ¹⁰⁶ ~~106~~ ¹⁰⁷ ~~107~~ ¹⁰⁸ ~~108~~ ¹⁰⁹ ~~109~~ ¹¹⁰ ~~110~~ ¹¹¹ ~~111~~ ¹¹² ~~112~~ ¹¹³ ~~113~~ ¹¹⁴ ~~114~~ ¹¹⁵ ~~115~~ ¹¹⁶ ~~116~~ ¹¹⁷ ~~117~~ ¹¹⁸ ~~118~~ ¹¹⁹ ~~119~~ ¹²⁰ ~~120~~ ¹²¹ ~~121~~ ¹²² ~~122~~ ¹²³ ~~123~~ ¹²⁴ ~~124~~ ¹²⁵ ~~125~~ ¹²⁶ ~~126~~ ¹²⁷ ~~127~~ ¹²⁸ ~~128~~ ¹²⁹ ~~129~~ ¹³⁰ ~~130~~ ¹³¹ ~~131~~ ¹³² ~~132~~ ¹³³ ~~133~~ ¹³⁴ ~~134~~ ¹³⁵ ~~135~~ ¹³⁶ ~~136~~ ¹³⁷ ~~137~~ ¹³⁸ ~~138~~ ¹³⁹ ~~139~~ ¹⁴⁰ ~~140~~ ¹⁴¹ ~~141~~ ¹⁴² ~~142~~ ¹⁴³ ~~143~~ ¹⁴⁴ ~~144~~ ¹⁴⁵ ~~145~~ ¹⁴⁶ ~~146~~ ¹⁴⁷ ~~147~~ ¹⁴⁸ ~~148~~ ¹⁴⁹ ~~149~~ ¹⁵⁰ ~~150~~ ¹⁵¹ ~~151~~ ¹⁵² ~~152~~ ¹⁵³ ~~153~~ ¹⁵⁴ ~~154~~ ¹⁵⁵ ~~155~~ ¹⁵⁶ ~~156~~ ¹⁵⁷ ~~157~~ ¹⁵⁸ ~~158~~ ¹⁵⁹ ~~159~~ ¹⁶⁰ ~~160~~ ¹⁶¹ ~~161~~ ¹⁶² ~~162~~ ¹⁶³ ~~163~~ ¹⁶⁴ ~~164~~ ¹⁶⁵ ~~165~~ ¹⁶⁶ ~~166~~ ¹⁶⁷ ~~167~~ ¹⁶⁸ ~~168~~ ¹⁶⁹ ~~169~~ ¹⁷⁰ ~~170~~ ¹⁷¹ ~~171~~ ¹⁷² ~~172~~ ¹⁷³ ~~173~~ ¹⁷⁴ ~~174~~ ¹⁷⁵ ~~175~~ ¹⁷⁶ ~~176~~ ¹⁷⁷ ~~177~~ ¹⁷⁸ ~~178~~ ¹⁷⁹ ~~179~~ ¹⁸⁰ ~~180~~ ¹⁸¹ ~~181~~ ¹⁸² ~~182~~ ¹⁸³ ~~183~~ ¹⁸⁴ ~~184~~ ¹⁸⁵ ~~185~~ ¹⁸⁶ ~~186~~ ¹⁸⁷ ~~187~~ ¹⁸⁸ ~~188~~ ¹⁸⁹ ~~189~~ ¹⁹⁰ ~~190~~ ¹⁹¹ ~~191~~ ¹⁹² ~~192~~ ¹⁹³ ~~193~~ ¹⁹⁴ ~~194~~ ¹⁹⁵ ~~195~~ ¹⁹⁶ ~~196~~ ¹⁹⁷ ~~197~~ ¹⁹⁸ ~~198~~ ¹⁹⁹ ~~199~~ ²⁰⁰ ~~200~~ ²⁰¹ ~~201~~ ²⁰² ~~202~~ ²⁰³ ~~203~~ ²⁰⁴ ~~204~~ ²⁰⁵ ~~205~~ ²⁰⁶ ~~206~~ ²⁰⁷ ~~207~~ ²⁰⁸ ~~208~~ ²⁰⁹ ~~209~~ ²¹⁰ ~~210~~ ²¹¹ ~~211~~ ²¹² ~~212~~ ²¹³ ~~213~~ ²¹⁴ ~~214~~ ²¹⁵ ~~215~~ ²¹⁶ ~~216~~ ²¹⁷ ~~217~~ ²¹⁸ ~~218~~ ²¹⁹ ~~219~~ ²²⁰ ~~220~~ ²²¹ ~~221~~ ²²² ~~222~~ ²²³ ~~223~~ ²²⁴ ~~224~~ ²²⁵ ~~225~~ ²²⁶ ~~226~~ ²²⁷ ~~227~~ ²²⁸ ~~228~~ ²²⁹ ~~229~~ ²³⁰ ~~230~~ ²³¹ ~~231~~ ²³² ~~232~~ ²³³ ~~233~~ ²³⁴ ~~234~~ ²³⁵ ~~235~~ ²³⁶ ~~236~~ ²³⁷ ~~237~~ ²³⁸ ~~238~~ ²³⁹ ~~239~~ ²⁴⁰ ~~240~~ ²⁴¹ ~~241~~ ²⁴² ~~242~~ ²⁴³ ~~243~~ ²⁴⁴ ~~244~~ ²⁴⁵ ~~245~~ ²⁴⁶ ~~246~~ ²⁴⁷ ~~247~~ ²⁴⁸ ~~248~~ ²⁴⁹ ~~249~~ ²⁵⁰

Left Orem town to Kororua with Webb & returned, highly disgusted with the dirty hamlet which consists of one bad hotel, 3 cheating stores, many grog shops & more houses of the same.

25th. Went to Neapatika with Agalid bullock, found some difficulty in crossing the stream from the hill being up. The narrow narrow stream crossing ascended some hills over the way, being to descend at the falls, that river which however we missed. After descending to a flat coconut grove a good one of *Leucaena* was sparingly but covered with the *Strom* & came to a small & pretty little fall in a streamlet over which the *Grapholium* *Hermin* & several other scarce plants grew. Also near it a curious little tree, from near *Leucaena* *Hermin* remarkably like an *Indica* *Hermin* plant in habit. On returning over the hills saw many owls. Supper at Lillip's hotel at Pithi & went to bed.

Sept. 29. After dinner remarkably like an orchidaceous plant in habit. -
 I then returning over the hills, saw many owls. - Supped at Luby's Hotel at Pohnia
 & went to bed.

30th Started with Luby to go to Pramato in company with Mr. Hais a gentleman who
 has been 20 years in the island having first come out as Carpenter to a Captain, he
 made a considerable fortune by repairing & refitting ships, some ships & some
 married ships. The daughter of one of the three few missionaries on the island
 bought property on part of which at the Pohnia he lives, at the residence of the
 American Consul Mr. Hais is one of the best houses on the colony, though the
 island is poor, he has formed a nice garden full of figs, oranges & fruit trees
 House nicely furnished, rooms lined with Sydney Parakeet or Cedar, the same
 as Mr. McIlroy's & varnished with a varnish rather coarser than that which
 is made from the Kaka di gura by the Americans - whom he sold the resin at
 1/2 per lb. This gum is nearly insubstantial in prof. spirit & is I was first with
 dissolved in hot spirit or more likely spirits of turpentine. -
 Met Mr. Hais at Pohnia.

Met her Man at Parikia who had brought over a horse & bag with his book
to take us part of the way. At this season the flowers are beginning to make
a pretty show at Parikia with plenty of roses, lilacs, Iris & Foxgloves in poor
Solomon's garden especially where there are many English & some native plants.
Papad^{is} Fox's Ford the former surgeon & the Establishment who has one of the best

horses I have seen: the Island, one of men that were imported from Chile
is a large, ^{red} man of war & with which the Island ~~was~~ stocked they are strong
& are noted good tempered & some of them fine looking though generally
domestic animals.

Leaving the house & boat about a mile up the Wytangi we commenced
our walk crossing a neck of land over a hill we came in full view of
the falls of the Wytangi. Pouring over a ledge of rock into a large basin
below. There are horse shoe falls about 22 ft high & 30 or 40 yards broad
the neighbouring country being comparatively low, the falls are very
conspicuous. Passing a large enclosed fence of Don Williams for keeping
cattle in I was astonished to hear how expressive this sort of railing
was though made of very common readily split tree the *Kaikatea*.

We were now in the flat valley of the Wytangi bounded by low hills
on all sides and abutting down with fern & the valleys or rather
gullies with woods about 100 ft above the sea & the first of the
steps which rise are rapidly in rising this part of New Zealand.

The land is very bad of stiff clay. I was once covered with forest.
Descending to another height one small hill we stopped to enjoy the
beautiful view to seaward - a narrow road traversable by wheel
carts here turns off to a large farm belonging to one of Williams' sons.
About 10 miles distant. There are some other square holes which
the natives often dig to sleep in at night when on journeys I take to have
potatoes in near their huts. - As usual the tops of these hills were
all cut & trenched. - Descending came to some very good rich land
though not much of it. This is easily detected as a distance from the
hypericums with which the native plants grow & the rich black
mould which sounds hollow under the feet. - Coming to a narrow belt
of March found the *Toronia* abundantly scenting the air like new Hay.
& a little *Agropyron*. Passing on to more bad stiff soil when *Centropus*
the worst I have seen on which the fern was scarce & a stiff brown
grass grew & scattered tufts with fine *Thelmitis* *Thieria* *Orthocentrus* &
is abundant. - All characteristic of dry poor land. Exposed the Wytangi
at a point which was swollen & white & above the house *Acronicta* *Acronicta*
took us over one by one. A few *Leptocarpus* & *Kaikatea* trees grow
along the banks with tree ferns & plenty of birchwood. *Hedera*
there is a good deal of March land covered with the *Phormium* trees
& here & there a *Dact. sp.* *sp.* raising its immense trunk bare & black
& charred by the fires. - The Wytangi is here so often swelled by rain
that all communication is cut off between the *Wytangi* & the
Island. Ascended another tier of hills where there was much
fine clay scattered in *sp.* *sp.* through the clay south which gave
it a marbled appearance. - From the top another flat was reached
to a crop a little below beyond which the *Wytangi* district extended

see last steps in a long straight line. Below us on the flat there was
 an immense quantity of grass dotted by extensive dark colored bracts which
 stretched to the Southward where in the distance the blue hills of the
 Sea Lake harbor were relieved against the sky. At the back of Maitland
 & a little to the Southward were two isolated hills perfectly volcanic in
 appearance with crater formed tops. Numerous fires sent up a blue
 smoke along the edges of the forest caused by the natives burning the wood
 for as they never cultivate their potatoes during two consecutive seasons
 in the S. & A. - gradually sat into the woods burning & clearing, in
 so doing destroying immense quantities of magnificent timber. A few miles
 back we had met Baron & Henry Perry who has made such a name in
 London. He had a squad of natives with him mounted on some fine horses
 the Baron himself is worth nothing almost & lives in a most wretched
 manner at the Maitland district where the natives laugh at his claims
 on the land many of the latter being much richer than he is especially in
 horses & cattle in fact I was given to understand that they were a very superior
 class & as their appearance testified were well civilized as is often the case they
 had been made a tool of by the Baron who had got them into scrapes about
 some cattle which he had given them in payment without having a right to
 them himself. The views on first coming on this settlement of the Maitland
 is very pretty, after passing some smiling worn fields we came to a large grassy
 flat bounded by trees on one side, while a stream ran through it turning
 a water mill & a bridge thrown across, led by a road to the village pretty
 situated among the trees, fenced lands, hedges & garden ground, while the church
 spire in such situation brought England to the mind in full force -
 The land is a light loam with a great deal of iron. Passing on to Mr
 Taylors we found his boys playing cricket on the green. The house is one of
 3 which belong to the Maitland all are alike & continuous rows with their
 garden fields & hedge rows & bush & trees & so on. At Mr Taylors we received
 a hearty welcome. The climate here from the elevation is much colder than
 at the Bay of Islands but all English fruits do well, no others however but
 the Cape Gooseberry. The garden here is very good & kept in excellent order, as is
 a small flower garden in which are some of the (rare in this country) English
 plants, Cape hollies, & Australian shrubs. - The little Torul dock is however
 the most troublesome introduced weed. I in fact saw some very interesting
 specimens of large birds some from the S. Cape - a fine Ostrich much the
 largest I ever saw. The bill of this bird when first was described to me as very
 beautiful covered with a transparent membrane through which summer red
 small red blood vessels ramify & anastomose - also a feather of a bird sent from
 a hill called - near the S. Cape which is described as sluggish & cannot
 fly very large & very fat almost wingless, their feathers & food were described for

Davis
 Taylor
 Clark

the chiefs but the tradition is that now only one exists in a cavern on the mountain & is looked upon with superstitious reverence. Mr Taylor thinks his fossil bones may belong to it. The name of the bird is Tarapur the latter was something like a grouse feathered partly mottled. - The species is now rare now not has one been heard of for some time. The Europeans are still of opinion that a second & larger species exists on the Middle Island. Of the Tylons fossil wood some are very good they are common in this neighbourhood - as are lignite & the leaves of the kauri pine imbedded in a sulphurous soil near some hot springs about 10 miles to the S. of Whangarei. Some of the fossil shells are very interesting chiefly brought from the Limestone at the S. Cape. Of his recent shells the fresh water ones like those of Europe are Unio, Lymnaea, Fusus Dentalium, Cardium &c. -

Of the land shells some noble Puzosia & Pteropoda. - Looking about the Chatham Islands their present inhabitants Mr Main informed me that their original settlers were New Zealanders not differing much from those of the Islands - that the Capt. Harwood arrived at Pt. Moresby in 1823 where in exchange for pigs & fowls he agreed to assist the natives to expell the Chatham Islanders for this purpose he supplied them with ammunition & took over 240 of them at one time, leaving his mate, & at another time as many more who driving the Islanders up into a corner killed them for food until they could raise their potatoes. & finally exterminated them. -

^{Harwood's} Tradition relates the natives cheated him with regard to his cargo & his expedition did not succeed, he pretended that the natives took the ship from him. These facts are supported by all of whom I asked on the subject & further accidentally heard through Mr Main that ~~Robertson~~ Harwood was lately seen begging in the streets of London - Another person of the name of Robertson afterwards went to the Chathams & after purchasing potatoes the natives refused to pay for them & getting irritated for the natives impertinently he stabbed him through with a harpoon which was at hand & left the Island. After that Robertson returned as whaling master to a French whaler to the Chathams when the natives murdered them all. On the arrival of the French corvette

Capt D'Almeida he went to revenge his own nation but could only catch an old woman or something of that sort. These imported natives then split into two parties one of whom was driven the other into a fortress where they are starving them out. - The customs of the natives have given rise to many quarrels with the English which have arisen through mutual ignorance but from superstition on one side & selfish aggression on the other have terminated seriously. Thus the natives when purchasing provisions from one another hold the land only for life, Tabooing ^{are} all instances

October
31st

Getting up early I walked about the settlement & was both surprised & gratified at the early hour of 5 to hear the natives at their morning prayers at a small hut that I passed. With the situation of the house & the church I was much pleased, it is built of wood Kandi with a steeply pitched roof. The walls hang above by several neatly kept grasses both of natives & one or two European plants. The English name. Descending from the hill outside a little wood with a stream & water in which were some proper & I took notice of the following trees which compose the generalty of the small woods. *Pity littoralis*, *Laurus Tavea* & *Scaevola*, *Knightia excelsa*, *Pauciflorum impatiens*, *Ulexanthum* near the water, *Piper excelsum*, *Laurus calicaris*, *Myrsine Coriellii*, *Geniostoma*, *Rubus australis*, *Coffronia*, *Peschia* whose mouthlike berries are eaten, *Gathaca glauca*, some *Araliaceae*, *Polygona*, *Sesuvium* &c. Sketching the Church I then went returned by the back of the gardens where a profusion of English roses hang over the palings - Saw two *Taylor's lizard* or *gecko* one of which Mr. Colenso had in spirits, it is a harmless animal, eats nothing but coniferment & suffers itself to be handled without making a sound or showing any irritation, its motion in walking is swaddling with the legs sprawling out horizontally & the tail on the ground. The natives regard it with some dread others with reverence & superstition according as they consider it, a devil, a god or a receptacle for the departed spirits of their relations, a few of the more civilised natives will look and handle & even catch it alive, as will even some of the more brave Maages, others again, as Mr. Colenso told me of, dare not approach it, I saw in particular a man otherwise of strong mind a good man & a particular friend of the mission, entreated Mr. Colenso not to bring it into the room or near him, manifesting inexpressible horror & repugnance at the idea of seeing it & covering his head his mat he actually covered from superstitious fear. Yet the man's Christian faith was impregnable, we laughed at this in a Maage but how many among our slaves betray more foolish & reprehensible fear for spiders or cockroaches - who once are naturalised & are disgusted with an insectologist.

At breakfast had some Jam made of the fleshy bases of the bracts of the *Thymelia theophrasti* &c. cut up & preserved in sugar it is very sweet with a slight peculiar flavor which reminds me strongly of Strawberry Jam.

After breakfast started for the volcano looking hole which from seeing from the Pinnate level higher than any of the surrounding country. Had hoped would have produced some peculiar plants. It is called *Pika Pika* literally the big hill. Cropped a wood by the Hokianga road in a moist place of which was plenty of the *Pteris Pinnatifida* Spet high amongst the brushwood it is a peculiar looking plant some Pandanus form - very succulent in the young state - Passed through a village at the base of the hill where two natives came & insisted upon accompanying us - The ladies were stuck back

the night could not exceed 4000 ft above the sea & it was covered
with Fern & the Coriaria. The crater at the top was filled up & very
indistinctly marked - But the view through the day was very fine &
marvellous splendid. To the East was the Mounate like a garden under
except the Church bearing N.E. & N. beyond which again was the Bay of
Tahiti the peaked hills of Cape Moutoua to the Southward a succession of
wood & hills were bounded by the Kiapara hills E. S. E. To the West
a large extent of flat bare & wooded country with a large square lake
called Lake Maue (or Napere?) about 4 miles across apparently & nearly
square, the extremes N. W. & S. W. & S. E. it was bounded by marshes
flat land & forests of the Kai ka tea in the far distance were the
mountain at the Hokianga & the sea N. W. & N. To the Northward was
a large deep valley in which the Mounate river runs well wooded above
which more elevated table land runs along & the forest join on to the
great Kai ka tea forests which had never been cropped even by natives
till the Missionaries cut a path through after a fortnight's labor to
a more northerly station. - Descended towards the lake & after a walk
of 2 miles came to a native village around which were very many fresh
trees & Cape Goodenias, some of the houses were very neat as was a church
in which one of the native school masters performed service every Sunday.
A narrow path way took us down to the lake through a dense mangrove
wood, where some canoes were - It was our intention from hence to have
visited a place opposite where there are some ruins, viz in the rock but
it was blowing so hard that the natives would not push to sea. The lake
is shallow all over particularly on the West shore where extensive
sand flats are. To the East side the wood is most dense with an
undergrowth of Coprosma & that peculiarity which marks the presence
of much *Sax. exilis*. The absence of water plants as *Potamogeton* &
Najas was noticed this was also the wrong shore for shells & we
found nothing but a small *Strombus* or *Elaphidium*? & *Strophomena*? with
plenty of larva of *Phryganidea* some curious spiders & the remains of
the eggs of *Libellula*. - of plants a fine *Sorbus*? not in flower. The
Prunella & several other things also a small land *Helix* & plenty of a
green mussel or *Talitron* not only on the banks of the lake but under
dry dead leaves far from any water. A curious green *Tremella* was
washed up & also found under the stones of the beach. Capt. Ross afterwards
hailed the Seine in the Lake & took a fine kind of *Amia* - *Anatina*? -
a large *Chara*, a fine Cray fish, a very few small fish & plenty of horn
larks etc. - hanging on the trees were some fishing baskets round which
of which were with mouse trap entrance holes. - fish are however

scarce in the lake & small. The tradition among the natives of the formation
 of this lake is that it was thrown up in token of the anger of the gods with fire &
 smoke & that an island rose from the bottom & disappeared again. However
 saw no promise on the East, Lee shore, & as I before remarked the whole lake
 is shallow & sandy. where Capt. Raper's net was torn by the stumps of trees.
 that however the lake is of recent date is probable from the fact that all
 the points which now ~~are~~ ^{was} not so shallow once had the names of now
 submerged villages. - However this may be it is certain that the land on the
 opposite side has been lifted by earth quakes & indeed the whole country
 is more or less volcanic. Having strayed for some hours I soon lost my
 way again & from a mist coming on my way in the wood, with the
 compass I indeed knew my direction but there are so many marshes &
 thickets that it is difficult to follow a straight line. Toobla however
 had no great credit his way to some potatoes I sent a native to look for
 one who came in a little canoe along the banks of the lake, hallooing
 singing & shouting, on seeing me he became suspicious in his voice, the
 more so on seeing me walk back into the wood. for my part I had no
 idea what he wanted with me & as there had lately been a battle in the
 neighbourhood I did not like the idea of this tattoo customer with sharks
 teeth in his ears, seeing however that he was determined to have me for
 his meal & as he gave chase to me in the wood I thought it better to give
 him a good grace much fearing I had been trespassing on taboo ground &
 that this fellow wanted to avenge his father's angry shades. After a great
 deal of persucision I entered his canoe not knowing what better to do
 I was the same time determined to resist any attempts he might make to
 devour me for Ki Ki (Eating). lay down in the canoe but he was very
 noisy talking angrily to me in his kingly tone which I made answer of Kapai Kapei
 (good good) on all occasions, finding me incorrigible he leapt off & landing with
 his frail bark ^{28 yds} ~~asked~~ ^{told} me to follow him to some smoke in the wood where I was
 not sorry to find Toobla cooking potatoes with two other natives & some women
 pigs cats & fowl. I found that my friends had been upbraiding me for keeping
 him waiting so long & a great deal more. They were all very civil & well behaved
 making the women cook for me. Potatoes & kumara. One pulled the Testament
 (native) out of his pocket & told me it was Kapai, whilst another showed me
 his knife shirt & one little girl rather a pretty one brought me a pet pig she
 had in her brown for my especial admiration & another a dog or cat. all
 of which lived together in great harmony. The natives do not eat salt which
 every New Zealander traveller should carry with him. They looked at my blanket
 with great curiosity telling me their names as however I could not spell them
 correctly & Mr. Selous knows them well I did not take them down finding
 that I had gathered one out of four one of them immediately started off for

the wood & returned with flowering specimens - It was now getting late & one of them immediately started to put us into the Waimate road an old knife & a few six pence delighted them all & we rubbed noses as parting though I believe their false etiquette. I should be on meeting - On our return we passed some fine horns belonging to a chief on the Hokianga district who preferring these things to Gunguts & powder, the general demand, has as many as 30 fine head of cattle & other good stock. - We then gained Mr Taylor's it had begun to rain hard - These table lands are much colder & more rainy than the lower ones scarcely a week passes without two or three days of rain or drizzle & never is there a whole dry week. The name Waimate means the bottom of bitting or as some say the sick water referring either to the cold climate, to some corner or battle lost there or as most say to the sulphate water in the neighbourhood.

After dinner had a good deal of conversation ^{with Mr Taylor} about the hot spring & the Kaundi forests to the northward. Lignite is in the process of formation in several places where now are Kaundi trees. I made very curious observations. Especially is an earth full of Sulphur near the hot springs where temperature is 137° Fahr & taste strongly of alum. - Once when travelling through the great Kai Toia forest he encamped among the Kaundi trees where they are most abundant on elevated ground growing in smooth but very stiff clay soil covered with their own debris. The night was dark & rainy every thing was saturated with snow but a dense mist hung among the trees in the ground. The weather was warm & close, when at night looking about him he saw in the tent several globes of fire floating about in the air of the size & appearance of a common Simuliuma stored lamp. & after a few seconds appeared to hang to the branches leaves of a palm which stretched into the tent. Thinking it might be an illusion Mr Taylor shut his eyes & on reopening them found that they had changed to parallel vertical beams of light floating in undulating lines & lastly they disposed into luminous clouds like those of the Aurora borealis the slightest movement put them in motion & on touching him, as they felt to him like as if a soap bubble had burst upon his cheek. This he believes to be a gas evolved from the Kaundi trees during the decomposition of whose resinous debris ^{this} gas is evolved from the density of the atmosphere the gas could not rise & its own motion may have produced combustion as in the case of Buteon. - Certain it is the immense portion of resinous matter in this of all other trees must where the tree abounds produce some atmospheric phenomena whether appreciable to us or not & as nature can combine causes to produce this highly inflammable substance, may she not also operate them during their decomposition under such circumstances especially

This subject is of course intimately connected with the formation of coal & with the nature called Jack o' Lantern on both of which I received from Mr Taylor his own views - The latter the Linnæan name being used. The sons of Conifers here, "I was returning" he said "one night from a neighbouring parish when I saw a faint blue light playing before me on the side of a path in a grassy spot several feet above the ground, the slightest breath or motion set it dancing about; with great care I approached very near it when it suddenly divided into two & vanished, the light was so strong enough to show me 2 white gate posts at a little distance which were otherwise not discernable" - This he also refers to the formation of gas evolved most probably from the peaty matter which exists in the fern.

With regard to coal he believes that coal is formed of Coniferous wood & of them alone. In the fern of Louisiana there are two preserved woods Oak & some Fir the remains of ancient forests which tradition tells us covered the land. The oak remains hard black & entire under the superficial weathering, but the Fir is partly decomposed & pressed down into thick beds of peat. Owing he thinks to the pressure of serious gases which tend to preserve the wood after certain stage of decomposition. Moisture favours their conversion into coal - with most other woods this is not the case & they therefore would decay or decay. The remains of wood at the mouth of the Mississippi would probably not turn to coal but decay although the pine. Some crude ideas of the same sort occurred to me in Kerguelen Land where in one situation the poplar wood is turned to stone & in another to coal. I get coniferous woods do not always turn to coal as in the instance of the V.D. Land silicified wood. The quantity of wood destroyed about Louisiana is incredible & there are all other of these kinds of the Island the grass is dry up every where. - I saw some fine specimens of the Sphæria Robertsoni called here the Peulcrack caterpillar, the whole body of the animal is filled up with the purgous matter & immersed in the ground the spindle shaped prettifying map only is visible & is common under the *Cyathea glauca*. Mr Taylor also gave me for my father another Sphenoid series from the Musambic river in New Holland. Both grow from the pink point of the body between that & the head & the spines must probably assist there in the caterpillar works with his head down into the soil to form its cocoon.

Raining hard during the night & this morning Mr Taylor told me during breakfast that on the west coast sandhills are daily forming from the ridges of the wind blowing up the siliceous fragments, these are held together by a Drilicum like the maram of the Norfolk coast, when this is burned as is sometimes the case, the sand shifts to an amazing extent.

when detached masses of the roots are blown about, rubble & from which
for other hillsides. When these flat roots become strata roots of dead
trees & comminuted shells of corals, are common. Now under favorable
circumstances they would become sandstone fossils. In other places
the sand dunes are backed by low hills of trap over which the
violence of the wind blows the particles of sand. Whence sand flats
are formed separated by a range of hills from the sea, now it occurs to
me that ~~the~~ such a situation should abound in the silicious coats of
Marine *Lupinus* & ^{calcareous} *Crustacea* which are lighter than the sand. I
again should the sea retire from its present level this artificial
marine formation would be attributed erroneously to the presence
of the sea. - Mr Taylor has also some very nice fossils among them
a beautiful *Prionites* & a noble *Locusta* which lives in the trees here. -
also very many pretty & characteristic sketches of New Zealand scenery.
Starting for Pukia is a tremendous shower of rain - found the long time
very much smaller so as to be difficult to crop - after descending for
several hours we emerged from the rainy heights quite drenched
through. Some land here was pointed out to me as having been given
to Mr Busby the British resident by the natives as a donation to
atone for their having attacked & fired into his house when he was
lying unwell, a heinous offence in their eyes, to attack a sick man -
government now claim the land which Mr Busby owns it. Passing Mr
William's fence examined it, & it is made of Totara wood of 4 rails
the 3 lower rails close together so that pigs could not get through &
costs 4/6 per rod. - walked round the beach to Pukia & passed
ourselves. Mr Mairs boat came across & ^{he} put us on board.
A Lay Missionary gets £100 a year with rations & £10 per annum
for each child of his own. Mr William's gets £15 for each child as being
the head missionary & having worked for many years as his ^{right} pay as head
of the Royal Navy. - Each child when 14 years old is thrown off the hands
of the Society with £50. Further an excellent education is provided
for the children, the Society having appointed Mr Taylor to board the males
& the Williams the females besides his £100 & house & £10 per cent
of his two children he is allowed I think £20 for each child he schools
of whom he boards 23 having an apportionment allowed him. He also
instructs the natives two nights in the week by means of an interpreter.
Some of them are very quick & I heard some candidates for Baptism repeat
long responses from the catechism with wonderful accuracy. &

frequency - the girls especially - sometimes as many as 60 or 70 attend the schooling on the Friday night several had to come for 5 or 6 miles in a boat back night through a drizzling rain, all these can read & some write, their ear in music is very accurate but their voice very harsh from want of training. The best of these scholars are appointed to be catechists - the several villages where they do much good & are always respected by the other inhabitants. Long he were very numerous almost all being affected by them which through their own carelessness often led in consumption -

October
7th

Having procured the loan of a nice dinghy from Mr. Man, Smith, brother & I started up the Kawa Kawa river to visit the limestone rocks at Waimani. The wind was blowing down very strong raising a bubble of a sea, so that we had some work to get up to the head, after that however the tide being favorable we soon sped along to Johnsons where we got a present of some potatoes & eggs in addition to our previous stock, passing the mouth of the Kaitiro we ascended the Kawa Kawa to the southward among steep banks confined amongst low hills tolerably wooded here & there - about 5 miles up came to some Eggers huts who were cutting the Dae. exultum into plantations here we made the boat fast & crossed on foot to the village which is large & rather compact with much good cultivated soil & a stockaded Pak - in very dirty condition backed by a buzzing ground & a native church & school house. Asking our way we were told that we should certainly be eaten by the Gouls among the rocks for the place was tabooed - ascending a hill about 400 ft by a narrow path we came to some trap boulders & enjoyed a fine view of the Kawa Kawa rising up amongst extensive swamps & immense dark forests of the Dae. exultum which have a most gloomy appearance. Of the native village with a pretty stream running through a valley in which the native women were washing clothes, a scene occurred the naked littleurchins learning how to use a land the men tally bounding about swiftness their decidedly better halves had at work on the potato ground. - Proceeding on a narrow ridge of hills came to many more trap boulders some of large size & found the ground all cut was to leave a very narrow path bounded by the slope on each side & the road apparently raised across the most steeped parts. - The soil was all clay & bare of any thing but Fern &c. - After walking about three miles we came to a much higher hill from whence we could see the position of the Waimani bearing W. N. Andean & Tennies range leading from the interior the west coast at Kia Para where they were very craggy from S.W. to S.W. by E.

We soon came in sight of the rocks of a gray color amongst some
fir & brushwood on the face of a small hill above a Native village
from this distance they reminded me of the pictures of Stonehenge -
On the surrounding hills were plenty of masses of Limestone & Fresh
covered with ochreous matter (iron?) All around was however very
naked there being few trees but in the narrow gullies - Happening
the stones we found some Native words cut upon in the clay
the path intimating that the place was tabooed & warning
not to trespass - The first mass we came to was nearly square
with many parallel deep channels on one face, about 12 feet
every way, composed of beautiful white crystalline limestone which
takes a grey line from exposure to the air & produces a curious
black lichen. Other of the stones are full of small round & yellow
some of them are large masses 30 ft high & look as if sunk as with
the hard slab upon slab so that the appearance of ruined walls
& old castles is quite striking & complete. An old man came from
the village to stop our horses & a very fine looking man quite
grey headed & tall and above to nearly to the crown of the head
around the back of which was a ring of white hair - He harangued
me with great earnestness pointing away & particularly drawing
my notice to bubbles with horror who was crouching astride on
a pinnacle singing melodiously. My plants he particularly
abhorred as being gathered there; all my traps were of no avail
& even that mischievous Manacca, I saw, he threw away on the ground
After a little time however he became pacified & left us more or
less than angry - In the mean time the women collected at the
bottom of the hill calling out & using all inducements to draw
us from a place they dare not approach. Having satisfied our
curiosity we descended to the village which is small & scattered, the old
man however would not appear to us but a young chief did with one
of the staffs of office look represents & of which Colver gave me a
very nice one - In passing there is nothing so little to interest except
(as in most tattooed burial places) that the brushwood is in some places
rather more luxuriant than usual, the difference of soil does not
show a different vegetation nor can it be expected to in any isolated
spot. Returned to the Sager & sailed down the river to the junction
of the Kanitwa & Kawa Kawa on whose South bank we made our camp
by passing the night under a fine tree of Sagera in bottom - Lightening
the fire was our first object & then after arranging a bed of fern commenced

working & sleeping -

gth
 Immense fleets of Canoes are coming down the river to sell and exchange at Paikia, considering how scattered the population is, one wonders where they all come from but there is the only hole there is for each they make a great show. They are all rigged with a bowsprit & a sprit & a blanket for a sail with which the natives manage them admirably & their appearance emerging from the little creek & rounding the points is very pretty & pleasing. I ascended a high range of hills amongst dense woods of the same nature as has been described before & then walked along the water side which is brushy & the beach covered with *Sambucus* & *Phytolacca dioica* & *atrus* found a small Triglochin in a salt marsh. - When the wood has been cleared from the bottoms of narrow valleys I have often observed the *Flacchia* to cover the ground with native European weeds amongst it, when it is herbage very rare culvert & does not flower. - At the top of the hill I saw the pigeons flying down to the lower valleys for food & the hawks already on the alert before birds chiefly a little green one & the Tin were very very pretty all the morning but insects as usual were scarce. - Being anxious to visit the pine forest on the river I we ascended the Kawa Kawa track the boat up above the village where the river is narrow & rapid & the scene on the wooded banks very pretty. The *Myrsinephyllae* & a *Callistemon* were common in the stream with a narrow leaved *Potamogeton* in the slower water also a *Umbellifera* in the stream. - The forest was characterized by the same vegetation as that at the head of the Mycani & at Lake Maue. Descending the river with the tide I current through its narrow bed we let her shoot. - Piping many canoes with the youngsters of the family who had gone down to Paikia, fishing with rods & lines, such hooks of various kinds. While they were catching a small black codling which is also caught in the sea & Bay of Islands. - The little boys seemed perfectly happy singing their native songs, which only admit of three tones rather bawled than sang they either use 2 old translations when I sometimes find from Colenso the words refer to unknown or forgotten deeds of valor & sometimes the very words they use are obsolete and can they explain them. The foreteller of the generality of their sea songs is of paddling - "Speed along good canoe, on good canoe go very fast, &c. or of fishing "Come good fish, catch away good hook & line the like. - at night they more commonly sing them in the day to frighten away the Devil. - A young man on passing the village showed us a very true green Jade ornament cut into a supernatural monstrous figure with sealing wax eyes a form commonly taken in their carving though they worship no idols. He was anxious to part with it for some the images of very old pictures only cut according to fashion in preference to a most excellent pair of pincers thick cloth ones. - These Jade things and of very great value would be often easily be procured at any time.

So much for a love of fashion in a New Zealand - The stone is the nephrite, the stone, a green jade, a serpentine mineral of great toughness, of which the natives make fine ornaments & this is in stone clubs, hatchet heads &c. I never saw a native or unworried specimen & the accounts of its original state vary much amongst the residents. Some have told me & insist that it is dug up soft in the mountainous interior of this island cut into the requisite shape & then dried by exposure. But from the nature of the mineral is obviously, untrue & impossible, nor am I sure that it is even found in the Northern Island. Most of it perhaps all colonies tell me is brought from the mountainous parts of the Middle Island - "the natives" he tells me "procured their axe stone from the neighbourhood of L. Charlotte sound in the middle island, which article they value highly (as gold) & named it Pounamu - the sea adjacent, was hence named, Te wai Pounamu - Englished thus, - the water (where) Pounamu (is found); - hence Capt. Cook's error in calling that island Tavai Pounamu - is easily supposed." - Paper several weeks in descending the river & landing at our working place we staid & returned on board by night fall.

9th Called on Mr. Main & from thence went to Kororarika

- 13th Descending the West shore of the Bay from Paim to Pt. Maitia for shells & sea urchins with no success the bottom being all very muddy from the retreating of the river.
- 16 Took the gig to dredge the "Favosites" bank with no success many commoner shells &c. but no large ones or marine animals got much better ones along the rocky beach beyond the lagoon where Oysters & Patella abound. The commoner sea shells are Cardium, Crepidula, Chiton, Buccina, Stella, Turbo, Pomax, Purpura, & beautiful rare colored Lobolobatus very rare, Perna, Pholas in the soft clay rocks, Tellina very common, a large Macla, Pecten, Trombus, Stellio, Pallo, Murex, Mitra, Turritella, Calliostoma, Helix, Loris & several mobile nautilus-like, though rare, Hyalaea & Cress the former very rare Spirula & the beautiful Argonauta for a specimen of which belonging to the late Mr. Cunningham I am indebted to Mr. Collier. Other cephalopods are not rare. - The beautiful Sarothamni purpurea is taken in many by the whales from the stomach of the sperm whale and? have taken a smaller species in the outer sea as well as the genus Hyalaea, Cress, & others. In the West coast there are many very fine shells of other species differing from those of the E. coast. - Invertebrates are numerous sometimes boring into the soft rocks - were some Pectinice various Polypi - of Decapod Crustacea there are also species of Grapsus, Hymenonema, Pemphothus, Pagurus, Emphidius & Pan & Poncellaria, of the Macranga Setacea among the rocks very fair eating. Trilla is the kind at the mouth of rivers. Palaeon is common which is like Trilla &c. of Amphipod Paludus a Jaeger very common along the shore.

There are several sp. of *Isotia* or some neighbouring genus & the rocks are covered with a *Serpula*. Corals are scarce a few *Coraliniae* *Flustra* & sponges. -

Fish are plentiful & good in the harbor especially the red mullet & *Trigloporus* several small kinds of *Mackerel* one of which the yellow-tail a kind of *Thom Mackerel* attains a weight of 16 lb. - The soles are all of very small size but the *Thomson* are large & rather good. Sting rays & *Sharks* attain a good size & are very voracious. - *Barracouta* are caught at times. *Hippocampus*.

Boat John Davis, Leather Jacklets & handsome Gurnet. The natives are good fishermen with the rod & line using a bit of Mother of Pearl or glass to attract their game & the hook with the hand net & with immense seines which several parties use together made of long shreds of the *Phormium* knotted together they shoot these nets in deeper shallow water & when hauling it in a crowd go outside the ^{light} of the net & splash the water to deter the fish from returning, sometimes using fire to attract them of *Kauai* from the

24th Sunday Morning Miss Favorite made her entrance in the Play & soon afterwards was married between us & the "Terror". She brought a couple of *Jaegers* & a *Lin* claim who took letters for me from England to F. D. Land in the Asia convict ship, sailed from N.H. to Sydney, took the opportunity of the Favorites sailing to follow me home. Miss was a little glad to have some one with me attached to the study of plants.

28th Accompanied John Davis to Pichia where he took boarding at Tully's hotel, from whence we went to my favorite place for ferns where in the space of a few rods we gathered nearly 50 species besides plants in *Jaegeria* - met *Stearns* who had shot me a beautiful pigeon from one of the *Peter* nests where he was its cradle was filled.

29th Accompanied with *Woolley* went to Pichia took Collier's boat with Sinclair to the *Wai-tangi* River ascending as high as the falls. The name *Wai-tangi* is derived from *Wai* - tangi, sounding water from the roar of the falls which are heard on the shore right at *Koronarua* & all over the bay about 5 miles off. *Wai*, water, is the common first syllable for rivers, as *Wai-kare* or properly *Wai-kare* fluctuating water from *Kare*, *Kare-kare* verb. to shake as water in a bucket, from the troubled state of the water when the wind & tide or currents are agitated. *Wai-mate* is another instance & *Wai-onio* - from *Wai*, & *Onio*, a prayer, or ceremony, formerly used with the dead. & The river *Karatu* is so called from that being the name of the sedge so abundant on its banks. - The *Kaua Kaua* is a diminutive from *Kaua* better *Kaua Kaua* better perhaps from the salt water. - *Keri Keri* pronounced *Kidi Kidi* is a place partly dug from *Keri* verb to dig. Again the place where Marion's body was cooked since *Talood* & called *Thadion* (the native pronunciation & as it is) bore the name of *Hauini*, from the *sa* form of the outline of the sandy beach from a night *hauini* verb. is the stern part of a canoe (derivation from *Collins*). - Below the falls which are 22 feet at high water there is a very large reef, not surrounded on all sides by *coral* rocks.

sparsely covered with vegetation from which American several good species
were procured. Ascended two or three miles above the river & saw a good
many ducks in the stream with some Shags one of which after being shot
went over the fall & in spite of the enormous body of water this wounded
state came up apparently unhurt. The fort below - A naked savage came
with Tattooing & who I had seen prowling about the morning immediately
struck out for it he put me much in mind of Darwin's Savage, with the
one he met with us. This river with the horrible mountain once - Found some
fresh water shells in the streams but little else. - Insects are rare although
the day was splendid I was sought diligently. - A few of them & the species
especially are very common all others rare though there must be many
species in the country but few specimens of them. - Locusts are very abundant
as are some Grylls from the trunks of the trees one of which attains an
enormous size. - An extremely beautiful little Meloboristina insect is very
abundant on the leaves of the Leptopernum, with some *Halticidae* & *Carabidae*
are very few except a species of *Leucisella* perhaps the tuberculata Fab. where
Rabbits are those of the highest race. I have heard of a *Dilysius* but never saw
it. - an *Onopeltus* is not uncommon in the same situations as at home, the
Staphylinidae are very scarce. *Cuculionidae* more abundant but best confined
to the wood where a noble *Proctos* lives in the Kanab - *Lamellae* common
Longicornes - as far from the largest proportion of Coleoptera the former on the
not exposed plains & the latter in the woods. There are also some *Heteroptera*
a large *Dermapter* is very common under the stones. - The species of *Palatka* is
intolerably fetid from living under the barks of dead trees & devouring the
Cimicidae, its smell is certainly more loathsome than any thing with
which I am acquainted. It may be wound several yards off. - It often enters
houses in the houses. - *Libellulidae* are very abundant. If *Heteroptera* these species
of wood boring Grylls a *Leucis* & small *Acyda* with one or two others.
If *Hymenoptera* a small bee which Capt. Rep. tells me are very abundant
born into a soft cliff near the hot springs, & a large *Phaenocarpa* also one
or two species of Ants. Several *Phasme* - all apterous that I have seen.
Some *Phygadeuonidae*. - If *Lepidoptera* 2 sp. of *Butterfly* a *Gynobasis* &
a *Phalaena* several *Proctos*, a good many *Heteroptera* & *Hemiptera* & some *Dermapter*
& *Linna* amongst which I saw a flattened wing. - *Hemiptera* are in considerable
proportion & *Diptera* abundant especially a small black round fly & a common
small blue bottle that blows upon meat. - soon as it is killed, or upon any
animal substance & is a serious nuisance. As the eggs are hatched in its body
which I have often proved by cutting them open & taking the crawling maggots out.
I should have been told of but never saw. *Tephritidae* & other
large winged gnats are common indeed both in number of species & specimens
around the Kanab the *Diptera* exceeded all other orders put together.

Of Reptiles there are none but 2 species of Lizards which I have seen, one the
 large one from the coast the other more or less common. No Snakes or Batrach-
 ians or aquatic newts. What Rutherford means by saying that this place
 produces tortoises I do not know, (see list of New Zealand) there being
 no chelipeds in the Island. Birds are scarce about the Bay of Islands but
 much more common to the Southward - here there are two Hawks & an owl
 often found under the fronds of the tree fern. Several Cuckoos & the beautiful
 one some small bird like Titmice - a ground Lark - a flycatcher, a small
 cuckoo, one or two Motu birds, a pretty Kingfisher which sits on the branches
 of the *Arceuthobium* & darts down on the *Porcellanaria* when they emerge from their
 holes their stomachs are always full of this crustacea for which purpose its coat
 is very thick, indurated & somewhat supple. - a small green parrot & a large
 species both nesters? the *Columba spodioparia* - a true Pouter - two *Streptopelia*
 and bellied & capped *Totanus*? Three *Sula* are common, two species of duck & the
 well known *Querquedula* the only native geese is a small one, it is not however
 common & differs little in ordinary appearance from the brown English one. Cats dogs &
 pigs are already beginning to run wild about the country the latter especially.
 Monday Capt. Ross, Crozier & Sullivan with a party of 15 men went by the *Kari Kari* to Waimiti
 taking the *Seneca* & skin boat with them. - Hunter board the *Favorite* Thomas & Perkins,
 returned & dined on board.

Went with Sinclair on the hills at the back of Paikia to a wood near Kiapahaka where
 we found the *Cyathus medullaris* in full fruit. It is by far the most hardiness of the tree
 ferns. The trunks are jet black & about 12-14 feet high, the tops of fronds are not horizontal
 but at an angle of 45 gracefully curved outward the *Stipites* about deep black 10 feet long
 the upper side of the fronds glossy dark green contrasted beautifully with the abundant
 dark brown clusters of spores on the under surface. The young crozier headed *stipites*
 are densely clothed with bright long dark scarious chaff. The inner substance of the
 trunk & *stipites* are composed of cellular substance of a pure white color & fleshy a
 mucilage, so that a piece of it looks something like half dissolved white sugar
 or more like bread soaked in thin arrowroot. The taste is marshy rather sweet
 & melting in the mouth. When used for food it is used to be roasted or half cooked
 when it is said to be very nutritious as is also the root of the *Otorea eximienta* with
 which I believe the natives never are starved.

Sailed the harbor master Schooner *Front* with Decatur brood & Phillips for Auckland.
 she visited. Pennant as being under our command. Left the ships to go to Waimiti
 with Sinclair & his advice & problem who had been our informant since the *Favorite*
 sailed for Sydney & who embarked in the "Front" for Auckland.
 Met Collier & Sinclair at Paikia & took Tibby boat to the falls of the Wapiti where we
 got out to walk on to the Waimiti (14 miles) on the road the vegetation had advanced
 a good deal especially amongst the ferns & *Glomera* in general - also some beautiful
Convolvulus appeared in full flower with a *Sperganium* & some other common ones.

Buckland formerly showed to save the Tootahake by the natives. In a hole amongst the
 barks along the stream some natives bones still remain deposited by a tribe now
 expelled from that land they deemed those of a child lost say few years since. In
 the stream found a *Dentalium* hanging on to the stones under the water. In one place
 cropped a little stream of chalybeate water in which the fishes &c were coated with the
 ochreous matter, when as, as some say, the name *Wai-mata* is derived from the bitter or
 bad water though it is very good. The first Kaundi trees to be seen in this part of the
 island are in the great Kai-tea forest to the northward of this district occupying
 about 30 miles in length of hard clay soil & cropped by one or two low tiers of hills. Here
 there is a tree upwards of 40 feet in circumference & another of large branches growing
 close together & called the *Ti-ti-ti*. It might the boys having cleared a large open
 space among the fern or a hill the grass was burned to the infinite delight of the
 natives many of whom asked an explanation of the ceremony & showed their detestation
 of the paid actors the conspiracy by firing their guns at the burning effigy.

This morning left the Waimata to walk to the Keri Keri by the only cart road. It
 was Zealand more than a few miles long this being (10) & very fair the whole way
 though sometimes rather round about. In walking to the river about three miles
 we came to a Nakari on one of those series of stages on which the natives are
 accustomed to pile provisions & give a feast or rather feed. There beautifully
 situated near a little village one flat surrounded on all sides by low wooded steep
 hills, out of which the river emerged among trees of the *Dawson* *Grewia*. - crossed by a
 neat wooden bridge. It consisted of 3 parallel rows of *Separi* & *Sark* sown planted about
 6 paces apart, formed of Kauri wood in general but not all. The middle row was
 upright running E. & W. & rose to a height of perhaps 150 feet, the two other
 rows were placed one on each side of the middle one at three paces distant & leaned
 toward the central ones to which they were lashed, it had then the appearance of
 a very high roof, at the gables of which were one or two slender spars leaning to.
 Transverse stages were then formed across these uprights & lean to's at equal distances
 above one another of strong short spars lashed firmly to the others & cropped by
 wattling. And there rude rattles were seen up to the top for the convenience of
 carrying up the provisions. These parts are now becoming rare & I never heard that
 any ceremonies or religious rites were in any way connected with their use or abolition.
 What should induce the natives to erect such unwieldy & inconvenient tables for
 the convenience of their guests I cannot conceive except it may be that as it is the
 universal custom to avoid robbery by placing their food on high trees or posts near
 their collages, it might be so convenient to watch as many stages as would hold
 all the food during the length of time it must have taken them to collect so much.
 Ascending some steep wooded hills came to an immense tract of flat land covered with
 fern & reedy marshes. None of the marshes are deep, the covering of decayed vegetable
 matter being from a few inches to 2 feet above the clay soil, which was where abundant
 in masses of the Kaundi grass whence it is inferred that that tree once covered the ground
 though there are no trunks roots or remains of it to be seen amongst soil perhaps because

the forests were burnt down when owing to the enormous nature of this tree the fire ate down destroying the stumps for some feet under ground as I saw to it would be curious to know in what state the roots exist deep in the soil is the fact & my belief. The man has all covered with red 3 or four feet high, amongst which the *Glinchima* *rupestris*, then species of *Dioscorea*, *Chimonanthus* *lunifolius* and some other plants grow. On coming to a pretty stream crossed by a neat bridge found abundance of a beautiful little *Libertia* & the *Chimonanthus* *lunifolius* in a very diminutive state under the bridge also evidences of the existence of former forests.

The view of the settlement at Waimate with its wooded hills from these hills is very beautiful, at about 4 miles from the Keri Keri the Estuary of that river is seen on one hand (the right) & its falls on the other pouring over steep of rock into a wooded ravine & winding above it is the distance arranged & grown of the *Daisy* *dim* *exaltans* whilst far to the northward the wooded hills of the Keri Keri form the view. The descent to the valley of the Keri Keri is sudden & the view of the river immediately beneath our feet with the cultivated water meadows & orchards its houses on high fields & the boats in the creek on the more striking from the contrast they form to the barren land we had just been traversing. Went into Mrs Kemp's at the Kaipara Station finding that Mr Tobin's boat had arrived we crossed the river went to the falls & then returned to the other side where we hurriedly returned & as darkness was coming on sailed down to Paikia whence I returned on board.

11th Went to Paikia & thence to the hills opposite the ship belonging with Dr Sinclair returned to Paikia.

12th Collecting shells & seaweeds along the beach with Dr Sinclair.

Walked along the beach - Colman is passing with his boat picked us up & took us on to Mr Purdy's at the Whitingi on whose ground he took us, where he has a large Piney & fig plantation & above capital Screen of Cordyline trees to protect his vineyard from the E wind - pointed out a new *Cypripedium* along the beach - beach where fine *Cacti* had its purple fruit quite ripe - which was not had before leaving Colman we continued along the beach where the *Phormium* *tenax* was in full flower & full of a watery honey - it was growing in quite a dry place & many new seaweeds - a little *Limnospira* & an *Atropis* with some other plants.

13th Entomologizing over the hills caught a pretty *Libinia* & continued on to the Point along crossed the stream & collected plants along the woods to fill my Herbarium.

14th The Jupiter sailed for Sydney taking my dried plants & my home. Filled board case with plants chiefly pines, other timber trees & Ferns on that day.

15th On board writing &c.

16th Landed with Sinclair at Mr Bain's & walked from there to the high hills visited on my first excursion to Mr Bartlett's at Parua Bay. Found on the way the most beautiful *Phormium* beautifully in flower above which two species of *Phormium* & a prop like a *Macrophyllum* Observed two skulls at an old burial place close to Bartlett's.

Capt Bateman & party accompanied us part of the way back. Lapped at Porpoise who gave me an eye made of tooth & said for ~~bateman~~ ^{canon} after having Mr. Main was the first person who introduced the Phormium tenax into Sydney by buying 1/2 ton which was laid up for 1/2 year & smelted. When laid up for it is used for white line through the Manilla hemp is far preferable. Capt Harrison R.N. was a great advocate for it & the "Tern" was rigged with it. The French that something may still be done with this valuable plant by proper sowing & careful husbandry. Now I doubt but that the nature of the hemp of the large & flowered northern species of which coarse mats are made may differ materially from that of the small yellow flowered species with which the Southern natives make such a beautiful fabric. - With regard to the extensive destruction of the Kauri I heard an instance to night. Two tribes disputed the possession of a large tract of wood & met at long range point to settle the matter. When the one tribe treacherously killed the other & murdered many of them, the remainder rather than see the forests fall into the others hands destroyed 25 miles of the trees the fire passed quickly from tree to tree & leaves nothing but the blackened stumps remain. It appears that this tree once existed notably in the middle betw. Stewart Island and the Kauri to Mr. Main who was brought up from that Island immediately recognized the gum in the ground behind the house gave the proper name for it & said that when she came from the natives chew it & practice now very much discontinued but once in full vigour when they were accustomed to pass it from mouth to mouth. Our method of sending ships for this wood is the most expensive & least satisfactory & any that could be employed the same purpose might much better be effected by contracting with the natives for a certain supply to be ready for transportation & still better with a trading ship acquainted with the coast & the language. The Phyllocladus makes most beautiful clocks for ships which never require care & keep its spars are who excellent. The Dory olive excellent is useful for spars & requires constant greasing or it will snap. - The Burnet & Fern are great objections to the rearing of sheep, as well as the scanty pasturage. - Whales which used to be common & frequently taken in the Bay are now rare. Capt Bateman has also taken them close to shore. He tells me that the Amblygonia is only found in the smaller intestines of weak & sickly ^{green} whales, which produce no oil, its present value is 3/6 per ounce but it is of no known use.

21st

Sunday - Capt Bateman came on board at noon told us that immediately after our departure from Porpoise Bay on the previous day, they had observed the smoke of a Gun Robertson to be smoking on one of the Islands opposite & that on going on to assist in quenching the fire they found the whole edifice a vapor but burnt to the ground as was the kitchen removed some few paces from it. Near the position of the fire place were the bodies of a woman & child both dreadfully mutilated the breasts & limbs of the former being cut off & then the trunks buried so that they could not be identified. The servant a man was found murdered near the house, he had been going alone, near the house had two wounds.

skull apparently made by a carpenter's broad axe. A little boy was mopping
over the window of a building, captain who had left her the room
with some land, money & the ancient permission to that party the Island. & the
deed was supposed to be done by two convicts who were had been at
labour in the Bay but who were imprisoned at Kororauka for further
offences & who had the lately effected their escape. A canoe was seen
to go to the Island that morning. Miss Robertson had been for the
day before settling her claim to the land with the Government and commissioners
who were at the Bay & held for the purpose of enquiring into the several
claims of the different land owners. Capt. Bateman was left, & we
often did hear that the murderers were natives of Manua were boys
who seemed to think according to their own customs that from the death
of the perpetrator purchase the land is given up to the original proprietor.
They had taken the boy with them & kept him at the Pak refusing to
restore him to any one. The whole circumstance was considered as a
prelude to a general rise among the natives. Some of whom are jealous
of the encroachments of the English & say that natives or "Maoris" soon go into such
all the same as pig" whilst they again resist the authority of govern-
ment which has refused leave to any of the purchasers of property to en-
tertain within the claims throughout the Island are settled, such as
are friends to the purchasers have been known to declare that they will
burn the Kanoe trees rather than let such a law be enforced. There are
rumours that the murder was known at Kororauka on the Saturday
many of the better natives are most anxious to bring the perpetrators
to immediate justice & felt much offended when some persons suggested
that Maoris had done the deed when they mustered to search the
Island for the missing boy & to keep guard over the Island as who to
know after their own fashion over the little girl whom they killed &
burnt, she happening to have belonged to a civilized tribe who are
seeking for revenge. Went to Paitia in the afternoon but heard
no more news in the mean while subject. Colonel had started a few
days before for the E. Cape - went into his garden to take a last look at
his native plants. Plums, roses & violets & returned over the
hill to the Observations & thence on board where all was ready for sea.

22^d Monday passed over very quietly though there were rumours of an insurrection
amongst the natives & the quest was fully established upon the Maoris who
still refuse to give up the Bay. Sent plants on board the Express for Sydney
in Maori case for which they want an equivalent charge. Several canoes on board
sent down letters for England & France one large Calcepsella. My father
bid a temporary adieu to the "Footnote" & the next of us at the Christian Island.

About 10 PM a boat came on board from the "Favorite" with a requisition requesting an armed force to take protection the town &c. - Sent Lieut Sherman to Horowaka to see whether there were any real grounds of fear who returned with a favorable report. which we were very glad to hear as it was now full time for us to be off for the Antarctic regions. -

- 23^d At 4.40 AM. weighed & made all plain sail down the harbor with the Favorite in company running under topsails jib & driven yet beating us with way stuck of canvas set. Shudding with ice. When off the Hook took leave to & Capt Sullivan came on board. At 10 we left we exchanged cheers & the Favorite parted company steering down along the coast for Auckland. -
 At noon Lat. 35.14 Long. 176.39. Wind S.W. 3 to 6 at night. Squally & cloudy. Air 56 to 66. Sea 60. Bar. 29.801 to 29.700. - 5.40 AM took presents from Captain.
 24th Lat. 36.27 Long. 177.34. - Air 56 to 63.5 Sea 61 to 63.5. Bar. 29.777. to 29.601.
 Wind S.W. & S.S.W. 3 to 6. - Cloudy. Saw some Cape pigeons Black albatross & Blue Petrel. - For Rodgers classman brought on deck for punishment, pinned over the stern - gave to, clover button. Let go the life line & pushed him out ship going to the 76th. - Wind increasing at nightfall with vivid lightning in the S.E.
 25th Lat. 38.17 Long. 179.51E. Air 61 to 53 Sea 60 to 50.5 Bar. Rising 29.606 to 755.
 S.W. wind 4 to 5 with clear weather & a little rain. Many albatross & Black Petrel. - Hooped some seaweed.
 26th Lat. 38.54 Long. 179.48 West. - Air 53 to 50 Sea 57 to 50. Bar. Rising 29.703 to 29.905.
 Wind S.W. Squally with a little rain. Many albatross & stormy petrel, numerous patches in the water. - Having run from E to W. longitude this again becomes the 25th of the month. - At 4 AM split the topsail stay in a squall.
 26th Lat. 39.1 S. Long. 177.40 W. - Air 53.5 to 50 Sea 56.5 to 50. Bar. falls 29.880 to 29.825.
 Southerly breeze. - 1.15 AM to & tried the temperature of the Sea at 300 & 150 fms. 3.40 PM hooped a broken spar apparently with rifting hanging to it. - Saw a Porpoise many albatross, dusky petrel Cape pigeons. -
 27th Lat. 39.10 Long. 177.12 W. - Air 53 to 43 Sea 56.5 to 50 Bar. 29.834 to 29.639.
 Southerly light wind drawing round to N.E. with the bar falling. - rainy & gloomy. Many albatross about.
 28th Lat. 40.47 Long. 176.57 W. - Air 54 to 61 Sea 57 to 59 Bar. 29.635 to 635 to 652.
 Bar. falling with the wind drawing from N. to W. & rising again to S.W. & S.S.W. gloomy & squally with rain. Hooped a patch of seaweed with many Petrel about it.
 29th Lat. 41.49 Long. 176.14 W. Air 53.5 to 63 Sea 57 to 59 Bar. 29.665 to 29.552.
 S.W. & E. wind Cloudy. - saw many albatross. Schools of porpoise & patches of seaweed. -
 Remained for Rodgers classman for Antinous conduct. -

At Sea.

Nov.

- 30th Lat. 43.43 Long. 177.5 W. - Air 54-61.5 Sea. 52.5-57 - Bar. 29.600-810 -
 NW breezes - Cloudy foggy, with rain mist. - Saw many porpoises, one corymb.
 10th Lat. 43.43 Long. 177.5 W. - Air 54-61.5 Sea. 52.5-57 - Bar. 29.600-810 -
 Albatross, Blk backed gulls, petrel & Tern & papered much seaweed. At 7.50
 AM. saw breakers S.W. There are the rocks to the north end of the Chatter
 Island. which we hope to anchor soon - 7.10 pm. obtained soundings 100 fm.
 To my think that we cannot stand in for the land & having no time to
 lose few and on our course
- 1st Lat. 45.40 Long. 176.41. Air 52.5 to 58.5 Sea. 52-54.5 Bar. 29.761 to 30.265
 wind NE 4. Cloudy & gloomy papered many petrel of Leeward, Albatross
 & blue petrel. - the Prion vittatus? -
- 2nd Lat. 47.21 Long. 175.23 W. - Air 51-57 Sea. 51-52.5 Bar. 30.269 - 30.408
 NE wind 4. Cloudy & equally. - Saw many petrel of Leeward & Albatross.
 This seaweed is chiefly the Mucosystis papifera with sometimes a large
Laminaria - papered a white basket & a dead bird.
- 3rd Lat. 48.47 Long. 173.36 Air. 48-57 Sea. 50-54 - Bar. 30.405 to 30.885
 NE light wind with gloomy weather - Saw many Albatross, Storm Petrel
 Petrel, 3 sperm whales. a brown gull & many petrel of Leeward.
 Found the current to set 0.35 by compass S 1/2 W.
- 4th Lat. Long. Air 47-55 Sea 51-53 Bar. 30.279 to 30.011 -
 wind NE by North to North W. with gloomy weather & light breezes. Saw
 several Albatross, Penguin, brown petrel & whales. Found for soundings in water
 1100 fm. Landed away & took 400 fm of deep sea line, two deep sea lead & 2 thermos.
- 5th Lat. 49.27 Long. 170.47. Air 47-58.5 Sea. 49-52 Bar. 30.066 to 29.888
 wind light east & light. Cloudy, many Albatross & Leeward.
- 6th Lat. 50.1 Long. 168.40 W. Air 48-59 Sea. 48-51 Bar. 29.825 to 29.436.
 Northwesterly light wind & cloudy. Papered a shoal of black fish a bit of drift wood
 some Penguins & Leeward.
- 7th Lat. 50.40 Long. 167.40 W. Air 48-51 Sea. 47-48 Bar. 29.604 to 29.697
 E & NE wind with gloomy weather. - Saw many Albatross, blue & black petrel
 & Leeward, 2 Whales
- 8th Lat. 51.36 Long. 165.20 Air. 49-43.5 Sea 50-45.5 Bar. 29.660 - 410.
 NE breeze shifting to S.W. gloomy weather with rain - several Albatross & Petrel.
- 9th Lat. 52.32 Long 161.20. - Air 42-36 Sea. 44.5-48 Bar. 29.389 - 29.115 -
 Equally S.W. wind with hail & snow. Papered some seaweed, a large whale,
 some Cape pigeon & the small blue petrel, the American bird? many spotted
 porpoises.
- 10th Lat. 53.1 Long 157.49. Air 36-42 Sea 44-46 Bar. 29.134 - 29.876 -
 SE wind cloudy with rain & snow in the morning - Saw Leeward
 Albatross & whales many dusky petrel

Decr.
1841.

Off Seal & the Pickle

178

- 11th Lat. 52.50 Long. 154.0. W. Air. 38-44 Sea 46-44. Bar. 29.606-29.861.
winds S.E. drawing round by S. & West with gloomy weather Saw some
dusky & blue petrel & whale some seaweed & a school of Grampus.
- 12th Lat. 53.12 Long. 154.21. Air 41-51. Sea 45-39.5. Bar. 29.840-29.864.
N.W. wind with cloudy & gloomy weather - Saw some common & bottle nose
whales, stormy & Murre petrel.
- 13th Lat. 54.56 Long. 150.30. Air 46.5-40 Sea 38-40 Bar. 29.625-29.500.
N.W. wind with rain & thick weather, Saw black albatross porpoise a bottle
nose whale & some seaweed.
- 14th Lat. 56.20 Long. 148.0. W. Air 40-35 Sea 38-35.5. Bar. 29.300-29.294.
light wind from N.W. with some fog & rain Many blue & black petrel a
school of Puffin Cape Pigeons & a piece of seaweed. - a line of tide from N.E. S.
Tried the track of the Seal at 1050 fm. saw none that of surface - Gulls beating &
Jays flying as they sign at "Plover".
- 15th Lat. 57.4 Long. 147.40. Air. 33.5-41.2 Sea 37-34. Bar. 29.335-29.417.
N.E. light wind with some fog. - saw many petrel & an albatross. - current
setting 0.65 fm down to the S.E. - Gulls, hells, & Jaws going like a Plover.
- 16th Lat. 58.36 Long. 146.43. Air 40-33 Sea 34-32. Barom. 29.410-29.563.
N.W. light wind with fog & drizzle - at 5.30 A.M. saw the first Seabury & many
more during the day.
- 17th Lat. 61.3 Long. 146.3. Air 35-28.2. Sea 32.5-29. Barom. 29.566-29.797.
N.E. wind overcast with some snow. Many Seabury & some sea Cape Pigeons
whales & red colored petrel - killed our last Phalarope.
- 18th Lat. 62.50 Long. 147.35. Air 36-28 Sea 30-29. Barom. 29.790-29.986.
E.S.E. light wind with gloomy weather. - Many lugs - at 4.15 A.M. entered the
flock looking out lanes in the sea. Many large white petrel seals & whales. -
- 19th Lat. 63.23 Long. 149.50. Air. 39-27 Sea 32-29. Bar. 29.980-541. Light wind
from S.W. with gloomy weather. - Swimming through openings in the ice.
Cape went observing on a piece of ice. - Saw many Cape Pigeons, seals, whales, white
petrel & Puffins of the largest kind caught last year, they are easily seen from
on the flat pieces of ice sometimes also diving till the party is close upon them -
it is the same with the seals, both an utterly helpless & superior against
man though the seals attack & wound one another furiously. Saw a number
of both were all caught & much of them. Both of these animals also feed on fish &
especially on a large red shrimp of which their stomachs are often full as is also
the tracks of large & small cattle fish gravel is also contained in the stomach
containing of guttales & scales of trap, granite gneiss quartz & other minerals, water
either brought from the land or picked off some pieces of ice.

L. H. Park. Dec.

Jan 20th Lat. 63. 47 Long 151. 34 W. - Air 27-29 Sea 20.5-30 Bar 29.963-963. -
 Light E.S.E. wind with fog & gloomy weather. Sailing as usual through
 openings in the ice - caught some seals - shot a mother Carey's goose -
 saw a flock of Tern on the ice & all the other commoner birds - some
 of them have been shot by the crew. They are very pretty little birds
 much like the Auckland Id. ones but smaller -

21st Lat. 64. 50 Long 153. 23. - Air 27-33 Sea 29-32 Bar. 29.833-29.778
 Wind the same with cloudy misty weather & snow in the forenoon.
 Working the ship through heavy ice. Saw the same animals as before.
 much of this ice is discolored as was the case last year from the same
 cause - when melted it gives out a strong animal smell -

22nd Lat. 65. 30 Long 154. 19. Air 24-34 Sea 21-29. Barom. 29.794-29.910.
 Wind E.S.E. gloomy & foggy weather - Saw the same animals as usual
 with a flock of Tern - occasionally we pass considerable bergs - Running
 amongst the ice heaving to in pools of clear water & firing fog signals &c.

23rd Lat. 66. 59. Long. 155. 44. Air 22.5-34. Sea 27.5-29. Bar. 29.927-992.
 Light E.S.E. wind with fog & a little snow in the morning - at 1 P.M.
 watered on a floe - beating about in pools or working amongst the ice.
 Seals, large Penguins. White, Petrel, brown backed do, are all common
 besides which are sometimes seen the Cape pigeon, stormy Petrel, mother Carey's
 goose, the small Tern & dusky albatross. & the more rarely the hank gull
 with a white bar on the wing so common at Franklin Island.

24th Lat. 65. 50 - Long 155. 54. - Air 26-33 Sea 20.5-30.5. Bar. 30.009-29.971.
 Calm & variable winds - with sou'cast & misty weather. Tackling & going to
 in an open pool of water all day - or warping through the ice - being
 vexed in the Capt & gun room officers spent at night in our berth.

25th Lat. Long. Air 27-27.5 Sea 20.5-31. Barom. 29.976-769.
 Light wind from N.E. 786h. with snow at night - 11 large brown bags
 of oil from East L.S.W. Heaving in an open pool of water amongst
 the ice. Dined in the forenoon as on last years Christmas day.

26th Lat. 66. 9. Long. 156. 23. Air 27.5-31. Sea 20.29. Bar. 29.732-29.395.
 Wind N.E. (3-5) with equally snow overcast weather. - Heaving about
 in an open pool of water a heavy swell from the N.E.

27th Lat. 66. 16. Long. 156. 29. W. Air 20.5-34. Sea 20.29. Bar. 29.366-29.121.
 N.E. & N.W. wind moderating but foggy & misty with snow in the morning.
 Heaving all day in an open pool - amongst the ice -

28th Lat. 66. 20 Long. 156. 30. - Air 29.5-37. Sea. 20.29.5. Bar. 29.222-29.135.
 N.W. & N.E. light wind with fog & snow in the morning heaving all day
 in an open pool of water - saw several flocks of Terns here as the hank birds.

- 29th Lat. 46.24 Long. 156.9 W. Air 30-35 Sea. 20-29.5 Barom. 29.133-28.930
Northerly light wind with fog & snow. Still heating in an open pool of water
- 30th Lat. 46.31 Long. 156.19. Air 30-42.5 Sea. 30-30.5 Barom. 29.001-29.096.
N.W. wind & calms with dense fog & snow in the morning - at 1 PM a light
smell from the Northward - at 10 AM. hit the stone to dry the decks. -
Heating still in an open pool of water - at 6.20 PM. made fast to a piece
of ice with the "Tow" alongside the same piece - employed watering &
mutual congratulations -
- 31st Fast to the same piece of ice drifting slowly with a very light N.W. wind.
Air 43.5-29. Sea 20-30. Bar. 29.091-29.146. Foggy & snowing hard most of
the day. Crew employed on ship's duty as in harbor
Spent the last night of the year in great festivity on the ice -
- Jan 1st Lat. Long. Air 30-20 Sea 27-29. Barom. 29.150 to 29.461.
1842. Light S.W. wind with gloomy weather & a little snow in the morning - still
fast to the same piece of ice, hemmed in amongst heavy ice - Received graties
Jacket, Breeches, red shirt, 2 comforters, Blanket & Boot lace. - Dined in the
Cabin -
- 2nd Lat. 46.36 S. Long. 156.20. Air 27-40.5 Sea. 27-28.5 Bar. 29.466-29.741.
Light E. wind with gloomy weather shot a hawk gull & a Partridge. Caught
goose. - Saw two small Penguins on the ice the same as seen last year -
"Tow" alongside
- 3rd Lat. Long. Air 27-35.5 Sea 28.5-27.5 Bar. 29.796-30.8-550.
N.W. wind 2-4. Cloudy & misty - Tow still in ice, lashed to the same piece of ice
- 4th Lat. Long. Air 34.5-26. Sea 30-29 Bar. 29.358-29.462.
Northerly wind 2-4. with snow all the morning many birds & seals about.
Received 2 pair of white graties. Fast as yesterday. -
- 5th Lat. Long. Air 26.5-39. Sea 28-29.5 Bar. 29.461-29.357.
S.W. winds. 4-6. with a little snow in the morning. - "Tow" alongside
- 6th Lat. Long. Air 35.5-27.5 Sea. 30-29. Barom. 29.321-321.039.
S.W. wind in the morning with snow shifting to S.E. with gloomy weather. -
Many seals birds whales & a shoal of small fish. - at 1.15 PM. cast off from the
ice & made all sail before night beat to leeward in a pool of water. - Being
12th night spent in the cabin for the 12th time. -
- 7th Lat. 46.13. Long. 155.41. Air 27-31 Sea. 28-29. Barom. 28.972-496.
N.W. winds 3-7. with mist & much snow. - Tacking about in a pool of water. -
- 8th Lat. 46.12. Long. 155.27 Air 35-26. Sea 30-28. Barom. 28.476-742.
winds shifting from West to S.E. gloomy & foggy. 30 icebergs from the westward.
still heating about in an open pool. Appearance of land S.W. by compass. -
- 9th Lat. 46.5 S. Long. 155.42. Air 24.5-31.5 Sea. 28-29. Barom. 28.764-29.198.
Still heating about in an open pool of water. -

Jan'y.

1842.

- 10th Lat. 65. 59. S. Long 155. 30 W. Air 25-30.5. Sea 20-30. Barom. 29.210-559.
26 Berge seen from the mast head. Southerly wind 205 with clear weather.
Keeping in an open pool & occasionally running to the S.W. in lanes of water.
- 11th Lat. Long. Air 25-27 Sea 27.5-29.5. Bar. 29.589-561.
Easterly & southerly winds (S.W.) at 40th a partial eclipse of the Sun. at 0.30 P.M.
made fast to a piece of ice with the "Terror" fast to the same piece.
- 12th Lat. 65. 54. S. Long 156. 30 W. Air 26-34 Sea 20-30.5 Bar. 29.576-537
Southerly & Easterly light winds with gloomy weather. Caught a small fish with
the taring net. at 8.40 cast off from the ice & made sail running in openings.
- 13th Lat. 66. 11. S. Long 156. 57 W. Air 27.5-36 Sea 20-29. Barom. 29.545-374.
Easterly winds (S.W.). Keeping the ship in clear water all day.
- 14th Lat. 66. 6. Long 157. 12. Air 32-25 Sea 20-27.5. Barom. 29.365-29.262
N.W. winds 304. with gloomy weather & a little snow. Throwing spilling in a pool.
- 15th Lat. 66. 2. Long 157. 30. Air 34.5-20 Sea 27.5-20 Barom. 29.363-489.
N.W. winds (3-4) P.M. 330 P.M. with "Terror" made fast to a piece of ice. Water.
- 16th Lat. Long. Air 25.5-40 Sea 20-30. Barom. 29.606-556.
Light S.W. winds 3 P.M. - still fast. Sea very heavy all round - Heavy swell
ringing all the better & bumping the ship.
- 17th Lat. Long. Air 27-36.5 Sea 20-29. Barom. 29.475-190.
N.W. winds (1-6) equally & gloomy - heavy swell from N.W. Sea heavy & close.
- 18th Lat. Long. Air 27.5-34 Sea 20-29. Barom. 29.165-28.949
N.W. winds 6-8 in the morning shifting to North with much snow & fog.
A heavy fog. Swell carried away at 40th the hawser, at 440 carried away
both the hawsers, & lost ice anchors. - at 5.30 P.M. fast to a piece of ice
made sail, set double reefed topsails, courses, jib, staysail, Tergit & driven
& cleared Berg N.W. a cable's length - Shortened sail again - Sea heavy & close
- 19th Lat. 66. 18 Long 158. 30. Air 31-30 Sea 20-29. Barom. 29.221-28.904.
N.W. winds 2-8 fogs & snow at morning & night. A heavy swell carried
away several hawsers. at 2.30 P.M. cast off. Tacking about in heavy sea at
4 P.M. passed the piece of ice we cast off from with a dead end & on it.
- 20th Lat. Long. Air 34.5-30 Sea 29-20. Barom. 28.885. 413. 754.
A heavy N.W. & N.E. gale blowing 10 & 11 all day, ship heaving about with a
very heavy long swell from the Westward amongst cloud & heavy sea. - with
fogs & squalls & snow. - Parted main & foremast close reefed - set the Tergit
& fore staysail - Sea close on all sides, striking very heavily - 9 A.M. a heavy
hills struck the masts & moving the head - 11 A.M. the ship received another
heavy blow. "Terror" striking very heavy carried away gunpowder & 2.
- 21th Lat. Long. Air 34-27 Sea 20. Barom. 28.776-29.004.
S.W. wind moderating our fast. 7-8 - gloomy with a little snow. - 0.30 am
made fast to a piece of ice with the "Terror" in company - Unshipped

The sudden & a cold wind found the head much sojourning the upper & after
felling pieces torn away - & some upper torn away from the lower - "Larver" is
a much worse state much upper lost & Larver? whole lost stone & is much
damaged as to be broken up. Ice close packed & heavy all round.

- 22nd Lat. Long. Air 30-24.5. Sea 27.5-28. Barom. 29.018-396.
Southerly winds 1-7 with gloomy weather - Ice heavy & close all round - ^{damaged} separating.
- 23rd Lat. Long. Air 24-34. Sea 27.5-28. Barom. 29.421-480.
A light wind & gloomy weather - Ice very close & heavy all round.
- 24th Lat. Long. Air 27.5-36.5. Sea 27.5-28. Barom. 29.494-459.
N.W. strong winds - cloudy & gloomy. Ice closely packed in the morning slack at
night to the S.W. a swell from the W. still fast to a piece of ice with the "Larver" Co.
- 25th Lat. Long. Air 37-29. Sea 28. Barom. 29.500-29.326.
Southerly winds 2-3 with mist - Ice close & heavy - Fast to a piece of ice.
- 26th Lat. Long. Air 29.5-36. Sea 28-28.5. Bar. 29.306-29.391.
N.W. gale 2-8 with fog & snow. Ice slackening to the S.W. Fast as before.
- 27th Lat. Long. Air 30-34. Sea 28. Barom. 29.905-794.
Strong N.W. winds with gloomy weather & snow. Ice heavy but opening to the
S.E. at 9.30 P.M. last off from the ice.
- 28th Lat. 67.39 S. Long. 155.59 W. Air 37.5-28 Sea. 28-29.5. Bar. 29.800, 846.
Light W. winds with gloomy weather & snow in the morning. Ice close all round.
- 29th Lat. Long. Air 28.5-29.5 Sea. 27.7-28. Barom. 29.809-711.
S.E. wind 4-7 - with snow all day. Ice heavy - at 8 P.M. made fast to a piece
of ice with the "Larver" fast to the same piece.
- 30th Lat. Long. Air. 28.5-34 Sea 28.20.5 Barom. 29.716-889.
N.W. wind 3-4 with snow all day. Ice heavy long streams with floods between
at 1.15 P.M. last off Ice very heavy from S.W. to West, N.W. to N. lower to S.E.
- 31st Lat. 67.21 S. Long 157.51 W. Air 28-39. Sea 28-28.5. Barom. 29.923-29.199.
Light S.E. winds with gloomy weather & snow all day. Ice sticking, heavy in streams.
- Jan 1st Lat. 67.18 Long 158.12 W. Air 28-33 Sea 27.5-29. Barom. 29.236-29.268-257.
Southerly & westerly winds with gloomy weather & snow in the morning - Seals, Cape pigeons
white petrel, jaegers do & whales seen. Tackling & trimming & surveying to be done
the heavier ice - Ice at night slack all round.
- 2nd Lat. 67.57 Long 160.3 W. Air 33-37.5 Sea 28-29. Barom. 29.300-057.
Westerly winds with fog & snow clearer in the afternoon at 2.20 P.M. after running
through some streams of young brash ice we cleared the pack just to the southward
where we entered it having been 47 days in the pack all the while coming
from the northward showed that we were long at a great distance from the pack
edge - we have now a few miles through this pack - saw many seals

Jan

1842

10th

Pigeons, stormy & blue Petrel the former & latter of which are common amongst the ice also some Duck & Gull & Pigeon Petrel some Whales & a few white Petrel. - 11.50 Saw some stars.

11th

3rd

Lat. 68.23 Long. 159.52 W. Air 26.5-30. Sea 25-28.5. Barom. 29.867-28.6. Southerly winds with snow & gloomy weather. - Heading to the southward made the pack ice again harder close to the S.E. side of where we left it. with several bergs amongst & near it - straggling pieces of ice ran off from it but the other waters are pretty free from ice & bergs. - Large Pigeons become scarce as the pack edge is approached & the white Petrel take their place with the brown backed Petrel. -

12th

4th

Lat. 68.50. Long. 160.20 W. Air 20-35. Sea 20-29. Barom. 29.291-29.561. Bristly winds & cloudy with snow in the afternoon - Heading to the S.E. (true) off firm hard pack edge.

13th

5th

Lat. 69.59. Long. 163.53 W. Air 29.5-31. Sea 29-32 Barom. 29.561-29.977. Bristly winds in morning - At 2 gale in afternoon blowing & very thick amongst streams of ice with a heavy crop wind; struck a piece of ice & carried away both the boats - at 7.30 the 1st & 2nd L.L.

14th

6th

Lat. 69.51. Long. 167.39. Air 29-32 Sea 30-39. Barom. 30.039-30.1. S.E. wind moderating with much snow & fog. Roped much stream & saw heavy ice.

15th

7th

Lat. 70-10. Long. 169.49 W. Air 29-34.5 Sea 30-38.5 Bar. 30.365-30.6. S.E. winds 4-6 gloomy & squally. - amongst much stream ice near the pack edge - many bergs.

16th

8th

Lat. 70-19. Long. 174.0. Air 24-29 Sea 30-38.5 Bar. 30.962-30.683. S.W. winds (2-5) cloudy & hazy - still off the pack edge - many bergs & ice.

9th

Lat. 70-39. Long. 174.31 W. Air 26-33. Sea 20-39.5. Barom. 30.682-959. S.W. winds (2-4) with occasional snow squalls. - still off the pack edge, close & hazy. Many bergs & much ice - large flocks of birds - some whales & seals.

17th

10th

Lat. 70-3. Long. 176.23 W. Air 36-34.5. Sea 39-30.5. Barom. 30.978-29.2. S.W. wind a fine day. - still off the pack which obliges us to keep to the westward - many birds.

18th

11th

Lat. 70-6. Long. 178.14 W. Air 29-32.6 Sea 31-30. Barom. 29.109-28.63. Bristly winds (3-6) with fog mists & snow squalls. - Many bergs & heavy ice. we have now cleared the pack which terminates in a point - ice heavy & close.

12th

Lat. 71-2. Long. 179.12. Air 28-34. Sea 29-39.5. Barom. 30.781-29.867. Winds S.W. shifting to S. in the afternoon with snow - a strong black from S.E. & S.W. - many birds.

13th

Lat. 72-27. Long. 178.40. Air 3.5-27 Sea 30-32 Barom. 28.948-674. Bristly winds 2-3 with fog & snow in the morning - open water & many bergs.

19th

12th

Lat. 73-22.5. Long. 177.56. Air 29-26 Sea 31-30.5. Barom. 30.585-491. S.W. heavy gale with fog mists & much snow.

24.2.

24.15. Lat. 74.56. Long. 102.0. Air 24.5 - 26.5. Sea 30 - 30.5. Barom. 28.705 - 29.106.
 Partly gales with fog & many Snow Squalls. Some large bergs about.

24.16. Lat. 75.6. Long. 107.6. Air 24 - 26. Sea 30 - 31. Barom. 29.109 - 180 - 28.970.
 Partly & N.E. wind gloomy. Many white petrel *Leptodroma*. - we are now in

181

by numerous as also
 water at 1.15 PM
 found the current
 T. - dredged & preserved
 & West notes) -

Bar. 28.862 - 29.028
 on heavy ice.

29.053 - 28.846.
 dis. - bounded in 300 fm.

on. 28.835 - 518.

in. 240 fathoms.

Bar. 28.896 - ~~28.896~~ 28.87

28.80. - many birds

on. 28.277 - 242.

with the wind S.W.
 ice about.

Barom. 28.860 - 29.081.

& many birds about.

ice of black rock upon

- at 11.50 PM made

Barom. 29.151 - 28.987.

much dis colored ice

ice. - many bergs on

a backed white petrel.

a berg with rock upon

by. Tucked up covered

red Pinnacles ice.

to see saw last year

lost or torn of ice

at like the solid

berg but consists of

with low flat ridges

Pigeons, stormy Petrel the former & latter of which are common
amongst the sea also some Dusky Shearwater & Gigantic Petrel. some Whales &
a few white Petrel. - 11.30 Saw some Stars -

3^d Lat. 68.23 Long. 159.52 W. Dir 26.5-30. Sea 28-28.5. Barom 29.667-266.
Southerly wind

made the banks
several bags among
the water are
dark spots in appa
backed Petrel -

4th Lat. 68.50. Long
Windy wind
off the land

5th Lat. 69.59. Long
wind NW
amongst streams
away both sides

6th Lat. 69.51. Long
SE wind made

7th Lat. 70.18. Long
SE wind 4-6
off - many

8th Lat. 70.19. Long
SW wind (2-5)

9th Lat. 70.39. Long
SW wind (2-4)
Heavy. Many

10th Lat. 70.3. Long
SE wind
to the water

11th Lat. 70.6. Long
Windy wind
we have cross

12th Lat. 71.2. Long
Winds SW
SE to NE

13th Lat. 72.27. Long
Windy wind

14th Lat. 73.22. Long

2.35 heavy gale with fog mist & much snow.



- July 15th Lat. 74.36. Long. 102.0. Air 24.5-26.5 Sea 30-30.5 Barom. 29.705-29.106.
Eastly gales with fog & heavy Snow Squalls. Some large bags about.
- 16th Lat. 75.6. Long. 107.4. Air 24-26. Sea 30-31. Barom. 29.109-180-28.970.
Eastly & NE wind gloomy. Many white petrel Lapelagons. - we are now in greenish water evidently discolored the white Petrel very numerous as also the brown backed Petrel & large flocks both alight on the water at 11.5 PM
Hove to & sounded in 390 fms green mud & down 1st bottom found the current to set S. 70° W true - 6.37 per hour perhaps a wind current. - dredged & preserved a few animals different from those of last year (did not list notes).
- 17th Lat. 75.47. Long. 104.20 Air 25.5-29.5 Sea 30-29. Bar. 28.862-29.028
NE winds 4 & 5 overcast & squally with snow & rained some heavy sea.
- 18th Lat. 74.52. Long. 119.00. Air 26.5-24.5. Sea 29-29.5 Barom. 29.053-28.946.
A SE winds with snow & gloomy weather. Many birds & Whales Sounded in 300 fms.
- 19th Lat. 76.41. Long. 113.40. Air 24.5-10. Sea 29-28.5 Barom. 28.835-518.
Wind East & NE with cloudy weather. Many birds Sounded in 240 fathoms.
- 20th Lat. 76.14. Long. 107.25. Air 16.5-19.5. Sea. 28.5-28.7. Bar. 28.896-28.827.
SE & S E S Gale (4-9) 4 PM. - Lowest of Barom. 4.30 PM. 28.280. - Many birds
Raped some heavy pieces of ice - a heavy crop breaking sea.
- 21th Lat. 75.53. Long. 105.00. Air 19-23.5. Sea. 28-29. Barom. 28.277-242.
A heavy SE Gale (10-19) all morning moderating in the evening with the wind S. W.
& much snow. Barom at 1.30 PM. 28.257. - Some heavy sea about.
- 22nd Lat. 74.42. Long. 105.50. Air 24-20. Sea. 28.5-29. Barom. 28.860-29.081.
Moderating with wind SW & SE (11, 12) some heavy sea & many birds about.
Raped some streams of ice - saw a small berg with a piece of black rock upon it. - Sounded in 190 fms. green mud & small black stones. - at 11.50 PM made the Barrier from East to S. E.
- 23rd Lat. 77.49. Long. 102.35. Air 30-19.5 Sea. 30-29. Barom. 29.151-28.987.
SE Wind (2 & 3) 6 PM with beautiful weather. - Raped much discolored sea
Running through much black & pale brown green cake ice. - Many bergs one with large flocks of birds upon it. Some seals, some brown backed & white petrel, a black gull shot. Saw some Penguins & Whales blood - a bag with seal upon it. - Running through much sea toward the Barrier at 7. Tacked up, crossed
Hove to at 1 1/4 miles from the barrier amongst thick discolored Panakee ice.
The barrier here is lower & much more irregular than what we saw last year though we were expected to reach the present part to the last extreme of ice that we then saw. - its outlines more regular jutting out like the solid angles of a fortification - the precipices generally set to bluff but some times short, were either terraces of snow or white firmacles with low flat ridges at their bases which were broken maps of snow on their tops which become

detached from the cliffs above, then large then float off to sea when the wash of the waves easily removing the snow from one side they lose their balance & become inclined, Capt. R. saw several such & told one of them pointing out their origin at the same time to me - An appearance of land is seen over the barrier whose upper surface rises into long sand dunes along low hills of snow. The maximum height was 140 feet - here & there it ran into deep bights 9/13 aft. - we were about 7 miles deep. we were able to lay down about 140 miles of barrier & the coast d'Veil from the point where we have to extend it about 20 miles our extreme South Latitude at this time was $70^{\circ} 9' 00''$ & the Longitude $161^{\circ} 27' 2'' W$. we were entirely surrounded by young ice. Leaving the barrier at this late date it was time for us to commence our homeward voyage for the Falkland Islands tracing the pack to the point where we left it on the 11th. we could now see it a little to the eastward of us extending nearly down to the barrier the intervening space being filled up with young ice. -

- 24th Lat. $76^{\circ} 57'$ Long. $161^{\circ} 30'$ Air 21-20. Sea 20-29. Barom. 20.973-406.
N.E. strong wind with heavy snow. much loose ice & many streams along the edge of the pack. Some up occasionally to keep off the pack which is fine and easy. -
- 25th Lat. $74^{\circ} 50'$ Long. $166^{\circ} 15'$ Air 27-20.5. Sea 29-20.5. Bar. 20.473-380.
N. & N.E. strong wind with gloomy weather & snow running rapidly to the northward along the Pack Edge.
- 26th Lat. $72^{\circ} 46'$ Long. $170^{\circ} 1'$ Air 27-23. Sea 29-20 Barom. 20.435-610.
Strong S.E. wind with some snow in the forenoon. still off the edge of the pack very close & heavy running through much brack & young ice. -
- 27th Lat. $72^{\circ} 1'$ Long. $172^{\circ} 25'$ Air 23-25. Sea 20-29. Bar.
Easterly wind 273 with cloudy weather clearer in the afternoon sailing through much young ice along the Pack edge keeping more to the westward as it trends so. -
- 28th Lat. $70^{\circ} 54'$ Long. $175^{\circ} 30'$ Air 24-27. Sea 20-29. Barom.
E & N.W. wind (3.475) with gloomy weather & a little snow. sailing through much pack ice & stream ice. we are now approaching the point of the pack we left on the 11th. many bergs about. at 7 PM. breaved sharp up to weather the pack among a chain of enormous bergs. No currents at one time. - all round in one quarter completely lining the horizon - apparently shaded their northward and fringed by the pack. - at 9.45 observed bright streaks of the Aurora & saw some falling stars. -

- March
1st Lat. 49.52. Long 180.5. Air 24-27. Sea 30.5-31.5. Barom. 30.562 to 30.731.
Easterly winds (3-4) with moderate weather. Off the Pack with many bergs about
at 1.25 PM landed around the point of the pack on which some seals were sleeping & lay
up more to the northward with an open sea before us. Aurora seen early this morning.
- 2nd Lat. 48.4. Long 176.35 W. Air 30.5-31. Sea 29.5-33. Bar. 30.724-631.
Easterly winds (4-5) equally & gloomy with some snow. Only few bergs, many whales
no white Petrel but Cape Pigeon & Blue Petrel &c. Aurora seen in the morning very faint.
- 3rd Lat. 47. 20 S. Long 176.27 W. Air 30-37.5 Sea. 33.5-32. Barom. 30.652, 702, 504.
Calms & N.W. clear wind in the morning shifting to North with equally weather strong
breezes & snow. Faint rays of the Aurora no ice. - Current 0.25th per hour S 30 E True.
- 4th Lat. 47. 30 S. Long. 171. 47 W. Air 31-33 Sea. 31.5-32. Barom. 30.547 at 1.15 PM fell
to 30.170 at noon & 30.162 at 0.15 during a heavy N.E. gale with much snow equally &c.
& the afternoon on the Macmillan's side it snow moderated & clear around to the
Pack & fell nearly calm then. 2.30. - One Berg seen in the morning many blue Petrel
Cape Pigeon, a gigantic Petrel & Dusky albatross. Saw a school of small finned whales
travelling about in the sea. & Faint Aurora at night.
- 5th Lat. 47. 2. S. Long. 171. 38 W. Air 34-29. Sea 32-32.5 Bar. 30.377. - 489.
Light southerly air drawing wind to strong W.S. breezes with snow. Many whales &
Penguins, one Berg seen. at 6.30 PM. S.L.E. & Tinnor having cleared the Antarctic ice.
- 6th Lat. 45.6. S. Long. 167. 39 W. Air 30.5-29. Sea 32-33.5. Bar. 30.422-570.
A strong breeze now drawing & drawing wind to South, with gloomy weather.
Aurora in the morning, many small pieces of ice & a school of Porpoises.
- 7th Lat. 43.39. Long. 155. 30 W. Air 32.5-29. Sea 33-34.5 Barometer 30.599-494.
Southerly winds 2-3 equally with snow all day. Faint flashes of the Aurora - the
main & a large Macmillan's berg. at 5.10 PM passed the first piece of seaweed seen
apparently the *Macrocystis pyrifera* in an entangled mass. Lat. 44.00 probably
the highest latitude in which vegetable matter has been observed. The last seen was
in 54. 20 S & Long. 140 W. Sea from 30-35.5 the current then was N 2 E no ice had
been seen nor was till the second following day when the top of the sea fell to 32°
& returning from the Southward last year the first weed seen was on April 3rd in Lat.
51. 12 S & Long 137. Sea 40 being the day after the last iceberg had been seen & in
going to the Southward in Dec. 1839 the last weed seen was in Lat 40. Long 170 when
the temperature of the sea was 49 miles to the Southward of the first Berg seen
the only two seaweed picked up on these occasions are a large *Laminaria* & the *Macrocystis*
both of them in full life though many thousand miles from the nearest land - hence
there came the disappearance of the weed on the first appearance of bergs is remarkably
uniform. - Much more seaweed was passed in the afternoon -
- 8th Lat. 42.16 Long. 142. 50. Air 33-34.5. Sea. 34-34. Barometer 30.644-613.
Southerly wind gloomy & misty. Found the current to set N 59 E true 0.30 per
hour. More seaweed passed to day in smaller patches.
- 9th Lat. 40. 57. Long 160. 49. Air 31.5-34.5. Sea. 34.5-37. Barometer. 30.617. 29.680.
Southerly winds & equally but rather fine weather. No ice.

- 16th Lat. 59.1. Long. 132.20. Air 37.5-38.5. Sea 36-39. Bar. 29.794-932.
Strong SW wind with gloomy weather & a little hail. Many Ice about.
- 17th Lat. 59.39. Long. 127.12. Air 39-36. Sea 37-40. Barom. 29.764-461.
Strong westerly wind 49. with rain all day, with squalls & piled some heavy.
Very few. Saw some luminous patches in the water at night.
- 18th Lat. 60.21. Long. 122.50. Air 36.5-39.5 Sea 40-37. Bar. 29.701-100.
W. wind cloudy & raining at night. Many blue petrels 1500. Albatross 93
Seabirds seen.
- 19th Lat. 60.2. Long 120.55. Air 39-35. Sea. 37-40.5. Barom. 29.103-20. 227.
SW. wind 8-10 with tolerably clear weather rain snow & hail squalls several
Seabirds seen.
- 20th Lat. 59.21. Long 114.27. Air 36-40 Sea 30-40.5. Barom. 28.767-937.
SW. wind squally with snow rain & hail moderating at night. 3 Ice birds a
Kotche & gigantic Petrel.
- 21st Lat. 59.9. Long ~~114~~¹¹¹. 0. Air. 36-37.5. Sea. 39-41.5. Barom. 28.905-29.100.
SW. wind (4-6) with much snow. 3 Ice Birds seen.
- 22nd Lat. 60.20 Long 100.00. Air 30-33. Sea. 41-39.5. Barom. 29.170-277.
Southerly wind (4-5) squally with snow. on Bay many birds about.
- 23rd Lat. 50.36 Long. 104.40. Air 31-33.5 Sea. 39-41. Barom. 29.200-000.
Southerly wind (2-3) variable with snow in Bay. 2 Penguins.
- 24th Lat. 50.57. Long. 101.26. Air 32.5-39. Sea. 40.5-42. Barom. 29.050. 216. 2899.
Southerly & westerly wind squally with a little snow. Saw a Hawk Gull & Kotche
with many other birds.
- 25th Lat. 50.56 Long 96.0. Air 42-30 Sea. 40.5-42. Barom. 20.940-20.002.
SW. wind squally with a little snow.
- 26th Lat. 59.2. Long 91.30. Air 41-35. Sea. 41-42.5. Barom. 20.000-601.-
SW. wind gloomy with hail & snow saw Penguin gigantic Petrel &c.
- 27th Lat. 59.2. Long 87.21. Air 34-40.5. Sea 41-42.5. Barom. 20.569-634.-
W. wind cloudy & squally with hail. - pieces of ice fell at 6.30 AM. 1 1/4 inches
in circumference. Many birds & a shoal of bottle nosed whales.
- 28th Lat. 50.55. Long 83.30. Air. 35-40. Sea. 42.5-41. Barom. 20.646-949.
light SW wind with much snow. a shoal of porpoises & many birds.
- 29th Lat. 30.22. Long 79.50. Air 39-44.2. Sea. 41-42.5. Barom. 20.963-29.071.
SW wind in morning veering round by N. to NW. saw many dusky & black
backed & one large Albatross - Cape pigeon blue & ash colored Petrel one gigantic
Petrel a Tern & whale.
- 30th Lat. 50.20. Long 70.20. Air. 37-46.5. Sea. 42-43. Barom. 29.025-20.625.-
NW. wind shifting to NE. with hail. Saw Tern & one black Petrel.
- 31st Lat. 50.34. Long. 74.20. Air 42-30 Sea. 41-43. Barom. 20.595-367. W. wind
3-6 with rain & a little snow - many ash colored Petrel, Stormy petrel, Cape pigeon &c

April
1842.

1st

Lat. 57. 20. Long. 70. 22. W. Air 37. 42 Sea 42.5 - 45.5 Bar. 28. 385. - 372
Wetly winds (4-7) Squally with a little snow. Paperies Cape Pigeons Ash colored.
& Hairy petrel, Dusky allatrop & Black backed & large do. - a Tern.

2nd

Lat. 57. 25. Long. 67. 36. W. Air 43 - 39. Sea 42-46. Barom. 28. 834.
Foul partly wind shifting in squalls with very heavy rain. At 7.30 saw a
patch of seaweed. Many birds about. 7.45 The whistling scoping the compass lat.
Angell's quarter master fell overboard from the main yard. Put away the life
buoy which he immediately got upon, the sea being too heavy to lower a boat
made all sail work & stood toward the buoy. 8.20 when within a cables
length the wind's heading obliged us to pass to leeward the man still clinging
to it. 8.40 Tacked & passed close to the wreckward of the buoy from which
he had but a few minutes before disappeared & was lost.

3rd

Lat. 56. 41. Long. 65. 9. Air 38.5 - 40.5. Sea. 42 - 45.5 Bar. 28. 539. - 910.
Fair winds & drawing down to 10 the & W. W. (3-7) gloomy & squally with
rain in the morning. Saw in the morning several white birds apparently
the Chionis of the yellow land. Many Pigeons Hairy & Ash colored Petrel.
Cape Pigeons. Large & black allatrop. Black backed & Hairy petrel & a Tern.
Have no where seen birds so numerous as here especially the ash colored on
what look calls the blue winged petrel, the Cape Pigeon & Hairy petrel
at 6.30 P.M. spied a stranger lying standing to the N.W. the first indication
of investigation ever since leaving New Zealand.

4th

Lat. 54. 47. Long. 61. 51. Air 41 - 38 Sea 44 - 46.5 Bar. 28. 970 - 39. 490.
Wetly winds 5-7. Squally Rainy & a little snow, many birds Chionis &
seaweed &c

5th

Lat. 52. 36 Long 50. 42. Air 38.5 - 49.5. Sea 45.5 - 48 Barom 29. 482 - 485
S.W. light breeze & fine weather at 5 A.M. made the land of Beauchamp Id.
land down wrong. Capt Fitzroy took but wrongly in his charts very many
birds & much seaweed - flying along the land.

6th

Off the Land into which we stood about noon when with very thick
foggy weather we commenced running up Berkeley Sound. The land seen
in the morning was low but hilly with many white quartz cliffs but
little broken land as apt toward the hills tops. Raining very hard all
the afternoon - At 5.10 P.M. shortened sail & came to anchor in 5 fms.
and off Good House. Land very low & undulating green & yellow with
fading grass no bushes or trees to be seen & few little wild horses on
Long Island. A small boat came off from shore (there were no people but
a small schooner) & the gun, who took us for whalers told us that there
was a change of vicinity & that the place had lately received a vessel

1842.

March
10th

Lat. 60.10 Long 154.7. Air 30-34. Sea 35-36.5. Barom 29.075. 352.005.
S.W. wind gradually & finally shifting to a N.W. gale with snow. Sailed a piece
of Seaisced at 6.30. At 1.30 P.M. saw a large Esq. at S. P.M. Sailed some
heavy wash ice off the Bay. Many birds.

11th Lat. 60.10. S. Long. 157.32. W. Air 33.5-37. Sea. 34-35. Barom 28.941. 306.293.
N.W. gale with much rain & snow. With a piece of sea ice in the Bay.

12th Lat. 60.12. S. Long. 147.25 W. Air 34.5-37.5 Sea. 34.5-35. Bar. 29.400-367.
Northeast with light N. wind in the morning increasing to a westerly gale
with snow & rain in the afternoon. Sailed a piece of Seaisced. 10 small
Bays. S. 41 E. 5'. At 11.45 another 36 S. S. 5' 9' N. 2. 6'. variation 15. 25 5 P.M.
Sailed some small pieces of ice & a school of porpoises at midnight a Bay. 8 1/2 miles.

13th Lat. 60.0. Long. 143.40. Air 35-39 Sea 34-36. Bar 29.120-475 & 176.
A S.W. gale 57. Overcast mostly with pinging snow squalls drawing to the
Northward moderating during the day. At 0.30 close reefed fore topmast
running before the wind in a heavy sea at 0.45 the when clewings up the fore
topmast for close reefing a large bay was seen close on the starboard bow, hauled
to port, observed the "Terror" on the starboard bow under her topmast of foremast
running across us, how all aboard & immediately afterwards the two ships
came in violent contact collision, the Terror striking us ahead & remaining
entangled about 10'. She sailed to Lenoard having carried away our bowsprit
fore topmast for topmast yard, starboard cathead, bowsprit, anchor, braced sharp
upon the starboard tack but putting her under such weather the Bay & ice
having soon to bear braced the fore top & set the main sail making a
stern board along the weather side of it. the yard arms almost touching
its perpendicular face & the sprig, breasting in board of it, the strong beam
back along keeping the ship off it. at 1.30 having cleared the point of it filled
I ran through a narrow channel between two Bays, outside the Terror's
light N.W. burnt a light which was cut down, home to tide morning.
At daylight observed a chain of large bays from S.E. to S.W. P.M. which we
had passed through & found the following damages. the Port Bower anchor
(22 cwt) firmly set into the ships side by both jibs under the fore channel
just below the water line. Sparrow & starboard bow carried away.
First cuttle stone & gig completely destroyed Life Mary & 6th Mortar gone
Employed during the day clearing the wreck making a new bowsprit & preparing
for ending up a fore topmast. Observed the Terror with top of afternoon.

14th Lat. 59.25 Long. 141.27. Air. 37-36 Sea. 35-36. Barom. 29.122-720.

Strong S.W. & S. wind with gloomy weather & a little snow & rain. Employed
sifting & hammering bowsprit. Many bays & heavy pieces of ice.

15th Lat. 58.50. Long. 137.26. Air 35.5-40. Sea 34-39.5. Bar 29.730. - 804702

Westerly winds & fine weather increasing to a gale at night. Heavy bay
about & passed many heavy pieces of ice.

Government is Lieut. Thomas Brooke of the Royal Engineers who arrived in Jan'y. with 12 of the Sappers & miners & three women. - There are 44 persons in all in the colony & about a dozen houses - Country of a very desolate appearance & dark looking houses very miserable looking - Gov. House a low white washed building on a hill above the water near a little cove which was a relief to our eyes so long accustomed to the Sea. - The crews had been recruited for 3 months. - Mr. Halliday & Berkeley went to Government who sent some papers off to the Capt & a Navy list also some Turnips & fine Geese which are common here with. Capt. Craigie, Lieut. Birds, Snowtrap & Smith the promotion. - The Navy list. but no letters or dispatches for us. - The Engineer came on board with a

Thursday - Morning fine & frequent showers came in a
Portchard & Gua chas (one an Englishman) with whom we were to send a
party to catch Bullfrogs at Long Island. - This part of the harbor rather
wide but secure with low cliffs shores of slate a few low hills to the
westward to the eastward the sound. - to the southward some hills
which stretched away from Port Vincent to the Wickham heights on the
S.W. & a high round topped hill Mt. Simone in the distance S.W. the
most conspicuous is Port Vincent capped with quartz cliffs & down
whose sides much quartz blocks had fallen toward the water but apparently
checked by some stable sand. - To the westward into the head of the harbor
the land is very low & runs across to St. Salvador harbor 2 1/2 miles by the road. -
Started with the bullfrogs hunting party (with Bakerly) in the cutter & first
landed on the main. Opposite Long Island to get another Gua chas & French
Bears seemed very numerous especially along the beach & very tame some
Penguins & numerous Sheeps in the water & on the beach. Kelp, green, brown
Antarctic, lobster, furrow kelp & kelpweed also a few capers & much handsome
which eat berries - Oyster catchers, a large bold hawk & the odious Turkey
buzzard, Sandpipers. - Grapes were the predominating fruit with the
beautiful *Lonicia littoralis* & many smaller plants especially the *Didotia*
Didotia (Simpson's *Didotia*) forming a small low shrub shorter than
my head but bearing a profusion of red berries which like the lotus
plant ought to be fresh in the mouth by handpicks cracked & spit out
again & avoid the bitter of the kernel. Several English plants at once
caught my eye especially the *Helianthus bursa*, *Lonicia vulgaris* The *arum*
our Gua chas here procured some said like *Sedum* *Laport* & the *Polka*

Apr

Lakland Islands.

I am cropped over to a little killing place on the island at a low point easily distinguished by the whitened heads & bones of the cattle & the crowd of filthy Turkey buzzards & Hawks which flew over our heads in immense numbers sometimes hovering close to us & being very intently or again forming or some meat. The gunshots here caught the horses either with the Lape or Pelas mounted - Several of the island have many cattle on them but here they are driven over a ford from the main land having been previously taken wild among the hills & turned loose to feed on the Tupas grass a species of ~~Carex~~ which abounds near the sea & assumes a very large size - After mounting the gunshots caught the half tamed cattle by the Lape & dragged them round fast to the horse down to the Khan who where they were immediately hamstringed & slaughtered, a very cruel though quick operation. As the poor animal after being thus hamstringed after escapes for a short distance on his fore feet dragging his hind legs after him in a manner painful to witness - The operation of Lapeing was not cleverly performed & though very interesting to one who has not seen it before is as well described by many that I omit it here. The island is low & swampy the soil flat over the slate covered everywhere with grass especially the abundant *Alpacurus* grass - now turned yellow which was much eaten down by the cattle it grows in close & large tufts to the height of 3 feet or thereabouts, numerous pools of water covered the bog in which situations a fine sweet scented *Heinrichia* abounded with two small *Carices* the fine *Senecio* & various other plants. - Snipe were not uncommon & very tame as well as some Yellow Finches. Near the beach amongst the Tupas which forms large rounded hummocks with its matted roots a little *Galium* & several other grasses grew also the *Prasica Magellanica*? very unlike any other species I know of but not in flower. also a beautiful *Statice* like *armaria* but much smaller & many other minute but curious plants as the *Agerolla tri cuspidata*. the fine wild *Celeri Apium graveolens*? not in flower I remember and saw very faintly of Ferns there was a little creeping *Aspidium* with spiked fructification & a small *Stegaria* very abundant in some spots. Lichens were not numerous nor mosses but Lichens most probably formed the largest proportion of the vegetable kingdom especially in number of species.

Along the rocky beach the Nap & Steamer ducks (*Anas microptera*) were remarkably tame the latter live in the water near the beach especially amongst the *Macrocystis pinnifera* & go in pairs or flocks sometimes emitting a curious sound between a wheeze & a whistle, they hardly move off for a stone being thrown at them but when much frightened they immediately get their steers up & paddle away, they swim much deeper in the water than any of their tribe with which I am acquainted. Another duck smaller was also common it quacks & flies. Of birds there was a remarkable dearth nothing but a Spider & small Carabidous beetle besides stones near the sea. Marine crustacea were however common especially Gammarus, Salostea &c. shells very rare except murels & Patella having procured four fine cattle we returned on board by dusk.

Accompanied Hallett to the hills at the back of the settlement which are low & undulating lying on clay slate which is covered with a very tolerable vegetable mould of a very swampy nature the valleys are often broad & flat bottomed through which streams run often very deep & whose margins support a bright green vegetation of several grasses the *Gemma* *Arundinacea* & some very low Composites forming bushes 2 ft high - In some places the rabbits enter & are there by the French breed in immense numbers they are larger than the common English rabbit very much in color & the flesh is very white & exceedingly good. On the upper part of the hills the soil is often very poor consisting of a stiff clay which supports the curious *Polyp glebaria* the balsam plant or "misery balls" of the colonists. it forms huge rounded very hard green balls & hemispheres 2-3 ft high & as much in diameter of a pale or yellowish green color & exudes a pale yellow red balsam or sometimes white which is used both as the *Rosa copaiaba* & for wounds & hurts & always with success it is said. The pretty *Primula* is common on the hills with the *Impatiens rubrum* or *red blood* & other smaller alpine looking plants. Toward the top of the hills the Quartz generally appears supporting a bad marshy black peat soil on which however the *Arum* alpine grows a most excellent fodder grass grows abundantly in tufts. The Quartz forms white bare cliffs & its presence is always announced by the appearance of a fine *Stegania* 2 ft high growing abundantly at the foot of the cliffs. Here I saw for the first time

a stream of Stones (red granite) composed of membranes irregularly broken masses of Quartz rock lying at the bottom of a little valley below a small cliff of the same material. Several haunts seen one very beautiful with white belly & breast. Some very common called upland they are the *Anas leucopitena* & whilst they feed on the *Impetrum* & other berries they are fat & their flavor excellent quite equal to any English goose but as winter progresses they have recourse to the seaweed on the beach for food & then their flesh becomes not only disagreeable but very noxious. They go in flocks from 2 to 8 or even 40 or 50 I have counted. The Gander is white with a few brown bars on the back, the goose of a rich brown beautifully barred all over the breast & belly like a pheasant. They are very tame & easily brought down with No. 2 shot. - Snipe are very common & unlike the English snipe they seldom turn in their flight & are very easily shot, their flavor is excellent. The pretty little *Myrtus myrsinoides* is abundant crawling on the ground like the *Linnaea* its berries are large bright red very soft & sweet with an aromatic flavor or rather resinous like Venice turpentine but not at all disagreeable, the leaves are used & called tea & are very much liked by the settlers & Quakers many of whom prefer it to the Chinese tea; it is however very diuretic & is said to destroy virility (which I much doubt.) From the summit of a hill saw St. Salvador bay close under us very bare looking place, the neck of land between St. Salvador & the Sound is narrow not 2 miles at one place across. Returning fell into a road which leads back the creek & was used by the Sealers who have a hut on the bay for transporting their oil across. The houses at the settlement are very poor ^{native} huts one very neat one belongs to Capt. Gardiner R.N. who resides in the Lookout country at the Cape of Good Hope - the others are chiefly occupied by the wives & families of the Seppies in the Government employ. Passing the observatories on a hill between the bay & which we left & the lagoon which runs up to the settlement, saw some sick men at Mr. Whittington's house is the best wooden of two stories with terraced garden.

April
1887

187

188

9th

The *Erabus* this morning shifted her berth & was warped up to within a few hundred yards of the shore called at Government House when the Governor asked me about Lupal grass which is the best fodder water dry on the Island & on which the herds of wild cattle get immensely fat. One man can cut ~~the~~⁵⁰ bundles of it in a day 3 of which are sufficient fodder for any horse & they greedily eat it in the state of hay. Fodder house is thatched with it but it is too soft & brittle for that purpose - Gullies & Lebray at Fodder house - Walked along the beach toward the head of the bay, low cliffs of clay slate whose strata are much inclined about against the beach & as the water trickles over them they support comparatively a very luxuriant vegetation amongst them are many kind of grapes - fine *Triticum* a large *Arcana* the *Gumiera* a puning a large size - little *Samon* culms two species of *Sporolla* & several other plants. - Kelp grass were very common on the beach & extremely tame as were Shag. In this steamer decks & many other sea birds. At the head of the bay came to a pretty little Lagoon of fresh water in a flat valley close to the sea the water is of excellent quality & in it an *Eleocharis* *Calthe* & *Thyris* were abundant. Fresh Cotton & returned to the *Terror* & dine. - The *Erabus* shifted her berth today close to shore.

14th

Went with a rabbiting party to Johnson's harbor & ascended the Mt. Look out hill passed the *Fishermans* huts. (Orchids small *Compositae* & *Calceolaria*) at foot of the hill is a ravine covered with bushes of the *Philotrichum* *emuloides* about 2-4 feet high affording cover for numerous rabbits which were shot or taken by the dogs. In damp places found a handsome *Lycopodium* kept the clay slate & the slope. In damp places found a handsome *Lycopodium* kept the clay slate & the slope. In the hills came to Quartz which caps the hill alt. with the Quartz a handsome large *Stegaria* appears. Several plants at the top of the hill especially a small tufted *Compositae* & a pretty little *Andrea*. The stones on the summit were piled in loose large masses. At the back to the north of the hill is an immense swamp covered with black peat bog & little peat holes or Lagoons or it which bog stretches on to the sea on the north coast. In this elevated bog were immense tufts of the *Gumiera australis* & large hard very flat squares of the *Isotria* *peruviana* amongst which the curious little *Calthe* *appendiculata* grew. Near the Lagoon was a little *Hydrocotyle* & a *Draca* very scarce both of them a little pretty bird was abundant especially on the rocky places & so tame that they would almost be caught with the hand.

The rabbits around the hills for 100 feet & more burrowing amongst the loose quartz rocks in these situations their fur is thicker than of those on the lower grounds. Some springs here were all plants & contained specimens of a fine *Hyssopus* (barren) abundantly also a *Physium*? & *Sphagnum* where decomposition aided the formation of peat though in a very small degree to what the grasses ferns & other plants do. *Urtica* are abundant in all situations here & find footing ground as Darwin says almost every where. They are said to oviparate in autumn but no one knows where & though they appear scarce in winter I have put up a good many always from the little water courses where I expect they pass the bad season. Several couples of them were shot to day & 1st head of rabbits which from their large size were almost more than 5 of us could carry. On our return saw several owls which live in holes in the ground & are rather common. They are the only animals to be heard here at night.

15th Walked along the beach collecting plants amongst the clay slate rocks which abut on the sea. Many plants not found by me elsewhere are common here because it is the most favourable spot for soil & shelter. The cliffs face the N.E. & are formed of a crumbling or in some places in decaying clay slate whose strata are much inclined. Sometimes vertical after full of fossils. The soil on them is good rich & soft & in the crevices of the rocks many *Succia* & *Spermatophytes* grow with a *Viola* *Wimmeria* *internatus* & many other plants. Lichens also abound but I have not attended to them yet also algae along the beach.

16. Called on the Governor & afterwards walked about the hills found several specimens of the *Chloroa*? the *Primula* *magellanica*? & abundance of the *Galii* *crucifolia*. Near Goat Town some apparently introduced plants thrive well & have perhaps from thence through the agency of man but chiefly of cattle spread over the whole island & become perfectly naturalized. Of these the most common is the *Oxalis* *corniculata* & *clavata* flowers which form a fine rich soft but short.

few turage over both house on which the sheep are fond of feeding - They are the *Seneio vulgaris* - *Leontium vulgatum*? *Thlaspi bursa pastoris* *Rumex fruticosus*? & *actaea*? The *Alnus media* may be a native but I am not sure. The others are doubtless introduced & now are spreading on an immense surface of ground. I say the *Alnus media* may be a native because one or two species were certainly natives of the Auckland & Campbell's group & yet it must be planted very easily disseminated. The common species with the *Poa annua*? covering the Parnellian ground in the former Island. I have seen no other introduced plants & the flower has not changed from the immediate vicinity of both house. - The brig Alarm of London from Jersey arrived to day bringing a Mr. Keadley the both steward & some sheep from *Quercus lyra* last.

21st Thursday, storm day.

22nd Walked by a tolerable road to St. Salvador Bay. over ground of a fifth party nature covered with siddle dce & the around alga curus. The Banks of the Bay are low & its arms run up in long narrow bays with low clay slate cliffs exposed to the N. winds & hence generally barren of plants. The coast is covered to an immense extent with confervoid alga growing in a thick clayer mud on which numerous Kelp geese & steamer ducks were feeding. On the cliffs found some new plants a curious new sp. of *Polytrichum*? & fine shrubby composit. *Seneio Smithii*? the largest plant sup^{er} to the *Chitio* *trichum* that grows in the Island. it is not however common - When the fresh water streams enter the sea the curious little *Balliada*? of England & Auckland was abundant also on the beach an *Atriplex*? called *Spinach* & water as such. Vc. *Festuca*? with pungent distichous leaves also a var. of *Alnus media* & the *Oreocarya rubra* *Casuarina glauca* H. Van der Meer plant. In a little Lagoon found the *Caltha* & a curious little aquatic *Ranunculus* the *Hydrocotyle*? & *gland.* which grows like the *H. aquaticus* though its leaves are subject to no variation - Propped over to the bay of Port Vermet. & came to the Lagoon which run up from Port Louis at the back of Long Island, called by the natives *Fetyro* (which by mistake) is called here one has constant companions: the *Cava* care hawks (Bird) are so bold as to appear familiar. The *Adonis* have a narrow white band

forming low hills running parallel to the two other belts of Quarts
 which intersect the Island one of which the northernmost runs to the
 N. of Berkeley Sound & St. Salvador Bay forming out this line to the E
 & the North look out hills - between these the clay slate district of
 Port Louis & interseines & to the N. of the latter all is Quarts. The
 third or higher range ^{which} crosses the middle of the Island from Port William
 on the E. through Port Kent to Port Victoria on the W. is the highest
 of them all, the latter not being 1600 ft high - is called Wickham heights
 between these two is Quarts & spurs from each ridge join one another
 to the South of this again are fine flat plains covered with the ground
 slop. & formed entirely of Clay slate. The streams of stones are confined
 to the Quarts ranges & indeed ^{it is} they are the only formation that rises to
 any height. Found few new plants ascending the rock which was
 formed of numerous miniature streams of stones with an abundance
 of the *Spiraea* growing among them with subterraneous stems
 on the cliffs the Lichens abound especially the beautiful primrose colored
Usnea with black scutella which I never have seen on the low grounds
 & which seems to require the additional light granted by elevation or
 perhaps also the extra moisture of the atmosphere for nothing can be
 harder & less nutritious than the rocks it clothes. A little *Samolus* the R.
actosa was common with very succulent leaves as good as the *Lygia*
 whose place it took here. An additional height produced no new grasses
 from the exception of the nature of the soil but many *Juniperus communis*
 a new *Androsace* & other species as also what delights me much the curious
 little *Hyemophyllum* *coarctatum* perhaps the smallest known fern
 none can be more inconspicuous growing in hard black looking tufts
 in the clefts of the rock. At the top the rocks are piled in irregular
 masses & the strike of the Quarts which sometimes scars itself in long
 walls 20 ft high is ^{at} with an angle of 40°. The little *Haplophragma*
gaudichaudii ascend here as also the *Abrotanella* & *Hesperis glauca* the
 latter very small. The R. sides of the rocks were most abundantly

clothed with Lichens from the greater light one was very handsome
having a golden yellow crust & scarlet apothecia. the *Sumbilicaria* was
also common with the *Stictis gaudichaudii*? Many others to the
South side again proper *Jungmannia* abounded most. A large
valley running S & W. on this hill dipping both ways with two
ridges to the N. & the top of Mt. Permet to the S. is full of enormous
masses of Quartz doubly precipitated from the hills & cliffs above
forms the whole stream of stones which Darwin particularly notices, looking
down upon it the valley looks as if full of splinters of Paris which in
driving had split up into irregular masses. Though the sight struck
me as most extraordinary still I think it may easily be accounted for
from the stones breaking away from the hills above, where the strata
of the Quartz are much inclined & the masses constantly breaking up
from the combined agency of wind & frost I was quite surprised at
finding how some many of the large masses were lying on the slope
of the strike whilst though of several tons weight could be precipi-
tated by the feet down the hill. It is on this hill that Fitzroy saw
the lights like flashes at night caused, as he no doubt correctly
supposes by the falling masses of rock. but never saw these lights, indeed
the weather was seldom tempestuous enough from to walk the cliff &
look for them. The Island must however have undergone some
terrible convulsions from the curving of the Quartz & irregularity of
the dip of the clay slate whilst I shall mention elsewhere. At the back
of the hill some miles off the Wickham heights formed a bold distance
with broad black great gaps between singularly contrasting with
the snow white cliffs & streams of stones of the hills to the S.W. Mount
after but rose like but before terminated the prospect between
which & the many fingered St. Salvador bay but Simone rose like the
cone of Chimborazo - Perchely Sound was at our feet with Long Isd.
& Herman bay where the ship of Capt. Freycinet was lost. to the S.E.
Point William Cape Pembroke & the narrow lagoons there about.

The view of the Mts certainly struck me as ^{grand} beautiful & I hardly know why for their height is comparatively ~~small~~ little & their form certainly not grand or elegant. Perhaps the total absence of vegetation or any thing comparatively to these hills gave the idea of being on a great height & looking at objects much higher than from Fort William. Ben Davis does not look very high whilst from the Cairn gorm on Ptarmigan range its height ~~seems~~ seems stupendous - Nothing can be more exact than the similarity between this Mts & its hills & the Quartz district of Connemara & the Princeps Hills &c. A little yellow finch & a few Turkey buzzards were the only birds at the top with a few geese & plenty of rabbits.

26th M.S. "Anon" arrived & he is a Ketch stationed on the Mts for surveying

28th Thursday Early this morning a party started with Lt. Smith & some of the Anon's ^{Cattle} hunters to St. Salvador Bay. Copied out & sent to the former a description of a fine cove which he informed me was the upper part of the Mts. - Started to follow the cattle party - arrived at the bay at 10 AM & found them encamped with a boat & crops on the following morning a fine night. - boats making a great hubbub & frightening the dogs.

29th Rose early & launched the boat blowing hard from Westward. Three fine dogs & mixed breed with us caught some rabbits. After a hard pull landed on a little promontory about a mile down the bay & pitched the tent in a sunny cove on a bed of the *Stegania polycephala*. On the beach found some specimens of *Callia Brunoni*. & a small *Percepsula* - got the roots of the Kelp. also the curious little *Halmagae* found at New Island & very hard growing where fresh water meets the sea. The land here is tolerable with however a good many misery balls but no cattle. Shot a small bird called here the Pint goose said only to come over to Anticomm. This only half the size of the upland goose of the same color as the male bird of that species. There is scarcely any difference between the sexes. They eat like the upland geese & feed on berries of the *Empetrum nigrum* & *Arbutus*.

About noon it hulled & we put to sea again & after a four hours
hail just managed to crop the Bay. where they were a drove of
cattle. The dogs were with difficulty restrained from jumping out
of the boat or landing crept quietly up the cliff to the herd of about
10 or 15 cows & bulls which as soon as they saw the dogs set off at full
speed followed by the dogs & men; the "Arrows" men being accustomed
to the sport soon distanced us who had foolishly encumbered ourselves
with rifles. The dogs soon caught one cow by the nose & tongue whilst
a third held him by the tail till a man came up hamstringing him
with two strokes of the knife plunged it into his throat kicked the
dogs off who commence licking the blood & give chase to the rest of
the herd. All this scarcely took a minute, so fleet are the dogs & the
men so active that they sometimes take 3 out of one herd, as for as
we were dropped it & stared with astonishment. The dogs receive
little or no food for two days & are trained never to attack the bulls
which though they always run away are dangerous when harassed.
We got two cows & then chased a calf for about two miles which
being hard pressed & surrounded took to the water & swam about
a long time on coming ashore again the dogs soon seized it & brought
it down. It had been raining hard for some time & night was come on.
The calf was cut up & disembowelled then turned over on its front to
keep the flies from it. & we returned. Altogether the sport is very
hard & exciting but there is too much butchering. The sagacity of the
dogs is surprising, one of them always takes the nose & another the
tongue whilst the third moves them by the tail till the man comes
up & as quick as thought hamstringing the animal & then sticks it.
The dogs run to throat & work for the blood of the animal & it is a
disagreeable sight to see the avidity with which they drive their muzzles
into the wound in the neck & the difficulty with which they are kicked off
& follow the herd. At first the shouting of the men baying of the dogs
& bellowing of the poor cattle, give an idea of slaughter & yet there is

not an instance of any one having been hurt. The old birds generally, as sentinels to the herd in flock as the Falklandians have it) & set off as soon as they spy danger giving the alarm to the others but they never delay in attacking any one except when much irritated. This however escape to be their runs or tracks when pursued as they will not get out of the way for you in those cases the arrows men lie down when the animal starts on one side invariably & rushes on never turning to attack.

Returning to the boat found the tent pitched in a snug little cove near a little fresh water lagoon every thing soaking wet from the cruise in the boat & again from the rain covered the bottom of the tent with wet gravel & made up our beds such as they were - at night the rain turned to sleet & then to snow after which it froze hard & was very cold.

30th Left early to follow the catete whilst I went botanizing along the cliffs of the shore, a beautiful day. The ice $\frac{3}{4}$ inch thick on the lagoon. These Lagoons are curious features in the island & are almost constant where the valleys come down to the sea they are shallow fresh water pools only 2 or 3 yards from high water mark into which small streams flow & then on to the sea over a bed of shingle. There are several large islands in the bay covered densely with the *Tupia* grass which does not grow along the coast or has been destroyed by the catete. Along the tops of the low cliffs of the shore the catete have tracks deep in the soil & every here & there large masses of earth are displaced by the old birds during their fighting season especially where the *Polypodium* grows which they kick up to a great extent. Found few remarkable plants but the large lily found on Long Island the lower parts of whose stems contain a fine juicy mass as good as the *Tupia* it grows here sparingly & 2 feet high. On the dry exposed cliffs found the *Phyllois* in abundance & a small cruciferous plant of a new genus very sparingly growing like a *Draba*. *Caracas* & the *Polypodium* are very common with many other birds. The Brent goose & upland which at this season for the berries growing nearer come down to the sea & feed on kelp which spoils them as they grow there. The *Bird* goose is a most common bird on the beach in pairs or flocks the goose is nearly white with black wavy lines on the back & the under snow white they feed entirely on marine conferva & I saw some only taking to the wing when much harassed when they do not fly far one see wheezes & the other cackles but I do not know which they say much & is by or on the rocks.

The next bird is abundant as is the (generally more common in the
Steamer duck *Anas boschas* (Logger head & Back of the Sealers) They
sometimes assemble in flocks as here but are generally in pairs swimming
very deep uttering a peculiar sort of wheezing noise & diving for
Red. Turic often in 50 fathoms water when they stay below about 30".
They swim slowly & are very tame, when disturbed they take to streaming
along with wings & legs seldom rising altogether out of the water &
progressing for 100-1000 yards at the rate of 10th per hour. When they feed
on mussels which they break with their strong bills or eat whole &
little masses of comminuted blue shells are very common along the
grassy places of the beach mixed with their excrements. The common
black bl. gull often hovers over them at some distance & sometimes swoops
for the purpose of snatching away what they dine for whilst they
generally accomplish very successfully & destructively. The poor birds seem
to know that from their sluggish motions they have no chance with
the gull & not at all discomfited by the robbery immediately dive
for more which sometimes over & over again becomes the prey of the robber.
Their average weight is 16 8-10 (Dussum says 20) & they are succulent.
The male? utters a short guttural chuck while the female? wheezes
A brown Duck is also very common on the water generally in pairs they
fly fast & quack but are not good eating. The Teal is also common
is much smaller than the duck very fat & good eating, they generally
flock sometimes in hundreds in the fresh water lagoons in which they
feed. There is a larger Teal called redheaded Teal (or blue crowned) which
I have not seen alive it being very scarce. The only other bird of this
tribe is the Swan of which there are perhaps two kinds one with a
black head, we saw several but they are scarce, eat's berries on the
Hills in Autumn & stays in the water in winter, they are very shy, their
flesh is good. Two small grebes are very common in some places, one
the most common is black backed with a bronze breast & belly the other
ash with white belly. They swim slowly with their long head & necks
erect & their form generally 2 by their sides round their scarlet & yellow
claw of white feathers & with easy motion of the feet in swimming the bill

their head forward in a singular manner - There are two varieties or
 perhaps species of Shag the larger has white breast & belly
 the smaller is all black. They flock in immense numbers on the rocks in
 the water are very tame & whiten the stones with their dung in looking at
 you they slow their head in a conical manner as if their vision was
 oblique & poke their head forward & backward. They swim fast in the
 water about 5 miles per hour & dive for 20" very rapidly - In a rock
 projecting into the water saw a flock of 20 Chionis which is a different
 bird from the Key-land one. They were all white nor did I observe
 the very tuck of the Key-land one on any of them their bills & legs yellow
 & have a yellow cere or skin round the eye reaching to the base of the bill -
 They feed on kelp. Have a rank odor. Their voice is a short croak not so
 loud sharp was frequently uttered as in the other species in flying they carry
 their legs straight out behind them like the other wading birds & seem
 to have much more power of wing than the other has
 Two other wading birds are very common the Hematopus lactuarius, Cuv.
 & Act. Dick. Scill. The former according to Cuv. is peculiar, they often flock
 together & their habits are the same, they seek shells & along the beach are
 tolerably tame fly all one side uttering sharp loud short whistles
 which appear to alarm other birds which often take to the wing as these fly
 over them. They are tolerably good sailing - The other bird of this family
 are a very pretty little sandpiper chestnut brown above, white below with a
 black ring round the neck not common, also a bird I do not know perhaps
 a Tringa called the Jack snipe here & two species of Scaup one not very
 rare of an ashy grey above & dirty white belly & the other all ashy blue with
 white spots of which I have only seen one - The clay slate along the beach
 seems to have a quagga or wave dip & is sometimes quite sent at other
 horizontal forming small flat terraces - Near the Bay where the calf was
 killed last night came to a fresh water lagoon rather larger than usual
 with some teal in it - There found a new Platanus like the Hydrophilus
 which was also common there but had the leaves tridentate at the apex
 also found two species of Myia pyrrhus which depend on the depth of
 the water for their characters - Where the stream entered the lake I remarked
 that the terminal branches were often spirally twisted both to the right &
 & left - Some bird I had chopped the stems up into little billets which were

April
May

Falkland Island Port William.

about 1 inch long & floated about in profusion - can this be done to search for Larva in the stems? & the water found moss-balls formed of what I think is an epiphyllous *Jugermania* rolled down by the streams into the water where they settled at the bottom - Returning found that the boat cattle party had killed 5 cattle - but did not see to cover the bottom of the tent & make a better bed place.

31st Pulled down the Bay to pick up the cattle killed to a small cove completely covered with Geese of all 3 kind Ducks teal & other birds which kept up a din like a frontier yard - Large beds of a grey or whitish clay occurred abundantly out of which beautiful pipes are made & fitted with stems made from the small wing bones of the Albatross - No horses or ~~cattle~~ ^{neglect} have as yet migrated to this side of the Island. at least on the S. side of the Bay - Pulled back to the tents & then to the head of the Bay where Smith shot a small Hawk with a white band across the root of the tail, & walked on to ships the day was very fine.

April
May
31st

At 9 P.M. with Mr. Tuckey went on board the brig Alarm with Mr. Tucker - The governor having kindly asked me to accompany him & Mr. Robinson to Port William the next harbor to the S. of Berkeley, which he wished to survey, he chartered the brig on purpose. It was then doubtful whether that Port (being much silted up & entered) would not present greater advantages for the first settlement than St. Louis. Early this morning made sail down Berkeley Sound with a W. S. light breeze & foggy weather. Passed many Islands covered with Clippies which are let or sold in 300 acre allotments including where they are small the requisite portion of land on the opposite coast. Saw many of the black backed Albatross at the mouth of the Sound swimming & feeding on the water. The shores of the Bay are so barren that a little deep gully filled with Fascine bushes appears quite an attractive spot from its greenness & sheltered from doubled Point William with Cape Pembroke stretching out to our S. & East. The whole coast line is formed of Quartz rock on the S. shores of Port Henry on the south running inland from Cape Pembroke are low sand dunes about 500 ft. high & the dunes are covered here & there with a long grass & water side by barren rocks which run out from little coves where the water is

May
1842

Port William

193

of a ~~stunning~~ bright blue color like that at the side of an ice berg
to the N. side of the Port a well sheltered cove runs in under Port Louis
& opposite to it on the S. side a narrow channel about 200 yds. across com-
municates with a long Lagoon called Jackson's harbor which seems to be
parallel to the Port - Cape Pembroke forms the termination to the S.?
of the barochuan heights the third range of quartz hills which cross the
island. The views of these mts. in the evening are very beautiful & form
a striking contrast to the same scenery of Port Louis. Not far from a
fine abrupt precipice whilst at some distance to the N. two beautifully
peaked hills rose like two sisters & between them the higher & more distant
outlines of Port Kent & rose one above the other some were gilded by the
setting sun whilst some dark heavy clouds with purple fringes began to
crowd on the range & hid them a blowy morn. to the flanks of Port Louis
saw several troops (called flocks here) of wild horses trotting along in Indian
file & on entering Jackson's Lagoon where we anchored some wild cattle were
seen on the S. shore whilst trotting off the moment they saw us. The evening
was very fine & we landed on a point to the S. of the entrance of the Lagoon
the beach is very steep & deep pebbly the bottom a stiff clay - The ground in
the Quartz was very bad & superabundant covered with the small Stegoniscus
H. near the beach the Senecio vulgaris was common with Cerastium vulgatum
also Senecio Jantzenii & the little Cardamine glacialis forming a good
salad herb. Came to a large Juniper patch on the flat rock amongst them
the walking was very difficult. Shot a blue heron with white spots
but saw nothing else remarkable. -

Friday. Landed at the same spot. The soil here as in most other places on
the Quartz is formed of shallow layers of peat of the same consistence however
some about 3 feet thick lying on a bed of very stiff tenacious white or pale
blue clay 2-3 inches in thickness which lies immense strata in the Quartz rock.
This same clay is also universal between the vegetable soil & clay slate & is
thus the second geological era of the field the first being the clay slate containing
shells abundantly the second its disruption by the elevation of the Quartz
the third the formation of the clay & the fourth the vegetable peat & of
course are consistence every where containing no traces or signs of being formed
of any other vegetable matter than that now existing on the island.

walked over the sandhills which lie between Port William Jackson
Lagoon & run along East & West sometimes interrupted by the Quartz
crops out forming Cape Pembroke they are formed of shifting very
fine white Quartz sand exposed to the violence of the N.W. East & N.E.
winds which often come down in heavy squalls from Port William
In many places they are bound together by a strong wiry grass which
however does not grow by summers but in Turf in the height of
304 feet. In other places immense beds of the singular looking
Scaevola candida bind the sand & with them are associated a
few more common plants of smaller size. The highest part of
the range may be 80-100 ft above the water & to that height
fences of seaweed & shells are drifted on the smooth slopes which
are raised into rippling ridges like those left by the waves of the
sea & exposed by the falling tide. When the sandhills meet the
beach there is an excellent spring of fresh water quite free from any
peaty taste - a few Quartz rocks of the most acid description crop out
on their summits are of a dazzling whiteness & on them 2 minute
crustaceous Lichens grow. In some places the rock is much bent &
is often stained with red oxide of iron - any vegetation refuses to grow
on this narrow belt & walking amongst the rocks & sandhills recalled
some pictures of desert scenes to my mind. - From these hills to
Cape Pembroke the soil is still very peaty with an abundance of water
here & there of the same description - Many cattle & horses had however
frequented the spot to feed on the *Arundo donax* & other things
was as away where else in the island covered with a red protophyte.
To the South of Cape Pembroke is a Bay exposed to the S.E. with a
fine sandy shore where I first saw the *D. viridula*? a truly
gigantic seaweed in form like a small birch tree with
pendulous branches & leaves. The stems thrown up in enormous
quantities like drift timber on the beach were more or less compressed
8-14 ft long with the branches & arising from a broad root composed
of many stout cylindrical branching interlaced fibres the stems were
sometimes a foot in the broadest diameter & a section of the present

con centric rings of cells surrounding a pale strong axis. The leaves
 are from 1-2 ft long very coriaceous & strong - Then with other
 gigantic seaweeds & many of smaller growth seem to have been
 washed away from the rocky rocks on which the surf was breaking
 with violence - The *Lupinus* grass was here very abundant & struck
 me as one of the most singular grasses I ever met with covering a
 small bulgy peninsula which jutted out of the land & was formed
 of pure sand so that nothing could be seen but its rocky beach &
 the waving tops of the grass. on ascending it I was still more struck
 to find that it hung over our heads growing in detached clumps
 which formed a perfect labyrinth - These mounds were raised from
 3 - or even 5 (I have been told) above the sand, have steep sides
 are as much in diameter & formed of the interlacing roots & fibres
 of the plant with the decayed leaves, from their summit the culms
 & leaves spring of a pale green & the latter are often 6 feet long their
 tops waving over head - The flowers are in very handsome compressed
 panicles sometimes a foot long, green or tinged with purple (rarely)
 Many Penguin holes & dens of sea lions were excavated under wreath
 into which we fell up to our waists to sometimes amongst the feet
 dung of the birds. - Along the beach was another immense *Lupinus*
grass one part of which had been completely destroyed by the cattle
 having eaten down to the roots & the ground appeared covered with
 large bee hives - To the Southward of this Peninsula (which the former
 is now to call "Hooker's Id.") & reseme it for a *grass* *grass* is a
 steep beach formed of large round pebbles covered with thousands of
 stems of the *Schizocolla* & other small algae - a heavy surf kept
 constantly battering these round pebbles with a hoarse rattling
 sound Immense numbers of kelp geese & the beautiful *chionis* were
 feeding here & it was tame that they wd. stand to be walked up to. -
 Turning inland we walked along the side of Jacksons Lagoon over a very
 rank peaty soil with many sills of brack water to the brig & went on

board highly gratified by what I had seen & with the collection made especially of algae & grapes. Mr Robinson who had been smuggling returned soon after & with sharpened appetites for port wine & dinner.

The fish schooner had come in with live & dead cattle taken at Port Pleasant to the S. as also the fishermen's little boat which at this season meets with very little success but in summer with much when the fish are dried like Stock fish & prove most excellent eating. The former sent on board the schooner for some human bones which cooked form a Falkland Id. breakfast called by the Gauchos' Caracause.

Early in the morning it began to blow very hard in heavy squalls of rain & hail from the S.W. & N.W. The gulls sweeping down from the hills with great fury & tearing up the water before them. The hills were covered with a black grey mist which occasionally clearing away showed their black outlines against the angry sky. Such partial clearings were generally followed by heavy squalls as if the lighter masses of vapour ~~threw~~ ~~the~~ themselves made way for the condensed fogs of the clouds. The squalls lasted all day but spent their force by the evening when they were succeeded by nearly a calm night.

Sunday morning - A most fine day with S.E. breeze which gradually the grey mists which had shrouded the hills all yesterday. The former read the Church service & in the evening we crossed the harbor to Sparrow Cove an excellent small harbour for shipping with some fair water in it. An excellent landing place formed by a steep shingly spit of pebbles running out like a natural pier. Near it were some lagoons of water on whose banks the Cardamine glacialis grows in such profusion that in a few minutes we gathered an excellent salad which mixed with a little wild celery was very grateful. Out some river abt. 1/2 ft above this cove & we ascended it in about an hour skimming the sides with small streams of stones on which the Permetia grows abundant with bearing large pale snow-white berries. For the summit had an excellent view of the country from Cape Argos to Fanning's head

Berkeley Sound Port Louis & Port Karmelle, St. Salvadore Bay, Johnston
 Harbor & Low Bay. Mt. Karmelle. Mt. Karmelle. Mt. Karmelle. Mt. Karmelle. I in the
 far distance Mt. Karmelle covered with snow. The atmosphere was remark-
 ably clear & transparent. The disposition of the hills running in
 parallel lines 1800. was very distinct as was the parallelism of the
 Bay & harbors of the E coast. The strike of the strata is to the South
 to descending slopes several streams of stone amongst which I was
 delighted at finding the singular *Rapanea* *gibberna* which grows here
 down amongst the masses of stone & wind up naked branches only
 covered with intricate leaves at the top & singular spikes of flowers
 like a very inconspicuous plant the light silvery gray leaves being
 of a very similar color to that of the heart, rocks. It is a most singular
 habitat for any plant & was the only one that seemed to suit it
 though only a few inches high project above ground the plants are
 sometimes 4 or 5 feet long. The great bays on the flanks of Port Louis
 below the streams of stone are the most remarkable of any I ever saw
 consisting of a uniform black soft paste often raised into a low
 hill, both here & elsewhere, in to tabular flats with steep banks 2-10
 ft. high flat & covered with vegetation at the top. The pools which
 often occur among the flat are often, indeed almost always of an
 angular shape with steep shores of the same depth throughout, the
 frequency of the occurrence of these flat tabular elevations & square
 lagoons give the idea of their being made by some giant cutting one
 huge flat block & laying it down. When the hole whence it was dug
 became filled with water. This water is almost undrinkable & quite
 brown from the quantity of vegetable decaying matter. Streams of water
 are very numerous in all the great bays running in deep small
 channels they appear to be only the draining of the hills & are generally
 very flat to the taste. I never saw but one spring on the heart &
 that one is where the sandhills meet the beach at Cape Pembroke in other
 places the rock appears far too loose to expect springs to rise to the surface

Port William

Monday. Landed on the S. side of Jacksons Lagoon where with the hammer we had left off the walking survey of the neighbourhood on Friday. The ground still very peaty as we proceeded to the water had with abundance of streams of water draining down the hills. Found the *Ranunculus muscosa* in very wet bogs with *Sphagnum* & *pt* & the *Antennaria microphylla*? growing as like the *Pygmaea nemoralis* but they might easily be taken for another. Also the *Juniperus communis* & *affinis* on the drier banks. At the Western end of Jacksons Lagoon a large stream enters also rather peaty bottom, the largest I have seen in the Island. Walked down the S. side of the lagoon crossing over every river & then to Port William along a side of Lewis rocks scuttell arriving at the opening of the lagoon then went on board. -

Tuesday. Took the jolly boat to the N. head of the Lagoon hoping from thence to Port Kenton but William through the clay was not very perfect walked to the West under the fine projecting quartz cliff of Port William which is stratified the strata singularly bent with a most remarkable convexity upwards. This the largest instance of curved quartz seen in the Island & is really very fine. What can we be supposed to be the cause of this upheaval of such enormous beds of quartz which as I have said must have been in a partly state at the time? Doubtless it is effected by rocks of igneous origin either granitic or volcanic perhaps the same as that of the Anta etc. continent & that it took place under water is certain from the shells contained in the clay slate which overlies the quartz. & whose strata are no less disturbed than those of the quartz & often perpendicular. The clay overlying the quartz & slate again is a third formation probably fresh water. - Proceeding onward to the two peaked hills mentioned before came on some troops of wild horses which made off at full speed. The wind shifted to N.E. bringing with dense masses of vapour that the mountains were completely hid & when I had arrived at the top of a ridge from which I should have seen Port Kenton about 4 miles off there appeared nothing but a gulf

of mine. Finding it impossible to find my way should I proceed I retraced my steps in a direction for Port Hamilton on the N. side of Port Bellian. The ground was partially rocky & sometimes boggy in an way remarkably different from other part of the quartz formation. A good stream of pure water runs down from Port Bellian into Port Hamilton near which abound much of the *Senecio* I was growing, some in flower which looked very handsome for the size of the heads. In the flanks of Port Bellian saw a very fine old bull with large round & sweeping tail immense neck & fluctuating after waiting until approached pretty close to be turned tail made off that I had some fear about one his horn looking formidable. A party near Port Henrietta saw a troop or rather several troops of perhaps 200 horses (some place 1000) who were picking about & supping themselves in a fine grassy place carolling & prancing about in circles. Most of them were black & white & others black. Few were black & white some all white. I have sometimes seen some horses on the hills which have probably hurt themselves among the volcanic stones or been fighting with one another. These horses though partly animals seem very weak & cannot be ridden hard for two days running they will not eat oats or any corn & consequently have no bottom & it appears doubtful if they ever will rival the La Plata horses. The gamblers also use them very ill & leave them miserably bruised & galled. Forty miles is considered a great feat for a horse here & then he is not able to work for two or three days afterwards. - These kept in stalls are fed all the year round upon Lupine two bundles of which are sufficient for the day, & may eat 50 bundles a day. - Tramped from Port Henrietta to Jackson's Lagoon & went on board the Brig after a miserable days ramble.

Wednesday - Got up at day light with the intention of taking the boat to the head of Port William & crossing to Port Louis then being the way by which Port Bellian wished to return. But it blew so strong at N.W. that it would have been impossible to pull up especially as the ebbing tide had already made in the narrow creek at the head of Port William up which we must pull. Landed at a little cove on the N. side of the Peninsula where were the bones of a whale which had been entangled in the lagoon & taken by some sealers. - A yellow *Lichia* common near the beach & blue had attached themselves to them with some fishes. - Proceeded along Cape Pembroke & the

Port William

see birds mentioned before & collected seaweeds & rock specimens of Lichens

Thursday morning started at daylight from Jackson's Lagoon & up to the head of Port William following a narrow creek which runs into it & presents very pretty scenery from the steepness of the rocks covered with bushes, the plains well sheltered & such spots are the only really sunny ones I have seen in this sheltered place - The soil however is very bad & from the neighbourhood of the mountains the climate is all probability more rainy & generally cooler than Port Louis. Leaving the boat commenced walking over to Port Louis in a N.W. direction by the shoulder of Mt Permet. The whole soil is formed of dense black peat bog with an occasional bush or a tuft of soil & a variety of vegetation. Some streams were larger than we had been accustomed to see & one indeed was with a little trouble crossed being just too narrow to jump & very rapid - ascending a hill crossed as usual with loose masses of peat came suddenly on a large troop of wild horses who appeared very tame & followed us as we approached - The day was very fine & our view excellent similar to the one from Port Louis. Ascending Mt Permet saw some traces of rabbits which it is singular enough have not crossed a line drawn from Port William to the corner of St Salvador Bay. Probably from the excessive wetness & dampness of the broad billy bog which exists there, they however inhabit other very damp situations. Saw a very few birds which have all migrated before a month ago probably to the St. Roach of America though it is difficult to conceive how they can stem the strong S.W. wind, they are however good barometers & may take a more westerly course for the Pampas - The little sandpiper have entirely disappeared & these are the only birds whose migrating habits I am assured - The little Mont quire is said by many to be migratory but I can hardly think so - during the 5 months of our stay in their island they were always excessively abundant at St Salvador bay but never come to Berkeley Sound or the E. coast, their habits are quite similar to those of the upland zone feeding on berries as long as they last & then coming down to the sea for help in winter.

From Port Pernik (same ascent I mentioned before) descended to beach & thence
 altogether I have been very much pleased with the journey. The sandhills
 being new ground though as a botanical station Philibian is infinitely
 superior to Port Louis except for the marine large seaweeds - The only
 novelty I can now report: the Island is from a visit to the place where
 the *Peromia elaeagnifolia* is said to grow & which is most probably on the
 S.W. part of this & the W. Island for the error told me that they were
 scarce & only found in narrow valleys exposed to the winds that blow
 much from the Russian coast & that they are not to be found in other
 neighbouring valleys where direction is different. If true this is a
 singular instance of strict coincidence between local cause & effect
 were these Islands suitable to the growth of trees they would surely have
 extended themselves generally over the Islands - I am inclined to
 attribute the total absence of trees on the face of this country to the want
 of shelter shelter the mountains are all low & rounded the valleys
 all broad & swept by the cold winds so much that even the grapes
 have their bent as much as the Acacias of St. Jago in the Cape Verde
 except the greater luxuriance of the grape caused by the warmth of
 the season. I often think that these plains hills must much ~~the~~
 resemble the Tundras & steppes of Siberia as also the barren land of
 Arctic America where nothing higher than willows grow as the
 Philibian does here & only in ^{sheltered} ~~shaded~~ places where the hard turf
 is formed of Arctic plants & Lichens whose analogies are also here, where
 a short vegetation is checked from too much exposure, & the north to south
 frost & snow & summer radiation at night, & here the south from the
 violence & heat of the S.W. blasts from the regions of the Antarctic
 continent - Georgia is probably & other Islands what the coasts of
 the Siberian & N. America rivers are to the ~~the~~ tundras & barrens where
 Peaches, Pines & winter bark take the place of Birches willows & poplars
 but more of that after visiting those regions - As to the formation of the
 land I attribute the want of trees to the Falklands & not to the climate
 further than that it is modified by such local cause - Place Campbell on

or the Auckland group in the same ~~the~~ position & I doubt not but
that beeches would soon be found on them - Nor are these islands
without their analogy. The Orkneys, Shetlands, Feroes are placed
in very similar circumstances with regard to Norway & the British
Isles & why are they not wooded? They too have a great deal of
good soil on a similar formation, afford an abundant pasture for
horses cattle & sheep, are also covered with great bays & yet though the
opposite coast of Norway for 10° further south is covered with trees
no person complains of their nudity, whilst there are plenty to hold up
their hands in astonishment at the bareness of the Falklands because
the opposite coast of Fuzia for 4° further south is well wooded. If there
be other appreciable causes for the want of trees here it must be looked
for in the circumstance of their removal from immediate contact of any
great body of land - isolated pieces of land have generally equable
temperatures & thus it is that the pattern of Antarctic vegetation differs
from Arctic in the prolonged continuance of temperate & even tropical
genera into high Southern Latitudes. Now the Falklands are more
isolated than Fuzia whence they ought to have a more equable climate
& their latitude is lower whence that climate should be warmer. If however
the climate be colder it must be accounted for by the prevailing winds N.W.
being cooled by passing over the Fuzian heights (whence they ought
to be warmed or why is Staten land so luxuriant?) In no way can
the climate be considered as very different from that of Fuzia for it is
not to that cause therefore that the want of wood must be attributed.
Where it is in the same latitude as the Horn & is ^{at its} present ~~the~~ distance
from the main should then expect it to be a very barren place however
well sheltered as then the prevailing wind would ~~not~~ blow direct
from the sea & such crops Fuzia when its valleys & coasts would be sheltered
like those of Georgia with sugar, & Glaciers whose presence on Western
Fuzia is much encouraged by the contour of that land. Lastly I have
reason to believe that the open shores of Falklands are much clearer than

There of Tuleja ^{what} ~~has~~ ^{comes} from the nature of the country, here there are no valleys to hold winds nor mountains to collect them but a wind which causing a rapid evaporation during the day leaves clouds at night the consequence of this is the exposure of large plains to radiation & night frosts which cannot be so severely felt in the sheltered valleys of Tuleja surrounded by cloud capped hills shutting out the clear sky.

The other excursions which I made were in general confined to the neighbourhood of Berkeley Sound & were confined to Cryptogamic Botany &c.

The brig alarm sailed Brig "Alarm" returned from Port William.

Arrived the Brig Champion Capt Holt from his bringing that relating to a accident store keeper here & Mr Melville a settler engaged in sealing the Champion enson her way to Chili for guano or birds during which calls at ^{the} ~~the~~ ^{for} ~~the~~ ^{at} Liverpool. he hopes to call in here on his way home. I have ordered him to procure for me some matchlocks & sailed the brig "Champion".

Sailed the Brig "Alarm" for Buenos Ayres sent letter to Maria.

The weather we have hitherto had has been tolerably fine with little snow but generally hard S.W. wind or west. At times the wind is very seldom easterly & when it is the weather is always densely foggy & wet. The face of the country is generally boggy & wet & wash on from the constant falls of rain at intervals but it is astonishing with what rapidity the evaporating process is carried on during the clearer days when the wind blows. The vapours are thus carried off without mist or hanging round the hills. It is rare here & it is seldom that I cannot see the hills through the rain. The fine days which intervene between the bad ones are from the rapid evaporation always clear & the most distant objects have most definite outlines hence the views are always good in fine weather & clear of the haze which so often hides distant hills during calm fine weather. Refraction is sometimes very distinct but not considerable affecting the rocks in the Sound & making them appear with a height with a quivering motion but I never saw the distant mountains.

Falkland Islands.

hanger with a tremulous motion either from the level of the sea or from heights I suppose from the swiftness being carried off horizontally by the wind & rapidly, thus forming a thick dense stratum of vapour. Bright hoar-frosts are very frequent & have been since our arrival from the clearing & clearing of the nights. They do not affect vegetation much but lower the thermometer to 26° - 32° where

winter always now to have set in in earnest with heavy snow storms & severe frosts - The snow lay on the ground for several days & almost weeks from 1-3 ft deep in some places occasionally thawing & decreasing & then increased by new falls - The winds too, sweeping are cold cutting & violent - The cliffs over snow are covered with ice from the occasional gusts of rain falling up the little gullies with water which freezes into miniature glaciers. Young ice forms constantly between the ships & shore thick enough to impede a boat's pulling - The birds partly which have been at St. Salvador May soon since our arrival lately shot 3 swans of different species one black breasted & headed also a widgeon - A few foxes also have come down to them but none have been shot.

August. Spring sets in about the middle of this month with N.W. winds & a finer sky & weather the country takes the winter hue but of a pale brown color from the withered herbage along coasts. The ferns, Empetrum & other hardy woods or shrubby plants in clothing. The Agave & Portulaca Andromeda & the ferns especially continue evergreen. The herbaceous vegetation including the grapes killed to the roots by the severe storms. The lichens which cover the cliffs are of course unchanged - on the south side of Port Louis they are so abundant as to give a white appearance to the rocks - It is very singular to see how studiously they avoid the shaded sides of the cliffs & cover them exposed, particularly such as are dried & are exposed to the reflection of light from the immediate vicinity of the sea. In such situations a noble Ruscus grows a span long with a smaller species completely covering some cliffs with a white hoar coat whilst the rocks & stones are completely coated with crustaceous species & some under surfaces of projecting rocks I gathered what appeared to

imperfect forms of lichens of a few centimeters diameter. Florulent
 nature one of a bright pale red & another beautiful chrome yellow
 The former was I believe a Xeroglyphus Landplant. where I found it
 under similar circumstances. most of the light of seaweed is reflected
 from the water. Several Confervee green on the damp rocks, a Tremella &
Calothrix of a purple color on black wet soil also an Ulva on rocks
 moistened with fresh water which I have also found on the skin (still
 covered with hair) of a dead rabbit on the hills completely covering the
 wet decomposed remains of the animal which were sooner with water.
 In the streams of fresh water the little stems of grasses which hang into it
 as also the Sargassum sometimes become covered with an exquisitely delicate
 pale brown slimy anseroid substance which under a very high power
 seems to contain or be composed of Infusorial animals some of them like
 those of the antarctic sea &c. In other fresh water pools gelatinous masses
 of emerald green or yellow tremella float about abundantly often half
 suspended in the fluid. Little fish are not uncommon in the streams
 said to be a kind of trout but I have never seen them out of the water
 Several salt water fish are abundant in the summer season. Especially
 a large fish called Mullett here very good eating salted & cured with
 several smaller species of fish found under the stones all the year
 round -

Algae are immensely abundant on the coast both of the Bay & the
 rocks out to in the open sea. The sea beaches that I have found producing
 them are of three kinds. 1. The common beach of Port Louis formed of
 shingly clay slate ^{stones} through which the clay slate often crops out &
 from sunken rocks & spits & shoals. Near shore in the sheltered places
 are the commoner forms of algae grow especially Ulva Flavida
 & Siphonia. In the deeper water Laminaria musciformis, Thurillia
Ballia & some Ceramium attached to their stems. 2. The sandy ground
 beaches which are unsuitable for seaweed. In the deep water
 where Laminaria, Gracilaria & Thurillia several species of coral form
 truly submarine forests & afford a shelter for various Flavida & Ceramium

when a ^{reshing} sandy beach lies about such places on the zigzag
slight wood like Tuca are thrown up in enormous masses - The stems
of the *Macrocystis* cable-laid from the bottom of the sea into a
rope sometimes 1 ft in diameter & a hundred or more long, while the
length of each strand of such a cable is quite undeterminable - The
stems of the *Macrocystis* piled one on another often 12-15 ft long & 1 in diam.
with *Laminaria* as long & whose digitate fronds are 2-3 ft in diameter
together form a mass of vegetable matter 10-10 yards broad & 2-2 ft deep
in some situations - The growth of these goes on very slowly on these
masses from the cold state of the atmosphere & the known vitality of
such cellular plants constantly washed with spray & whose decomposed
detritus is removed by the tide - It has often struck me that were
such a mass thrown up on a tropical shore with its concomitant
swarms of marine animals, a terrible miasma would soon ensue
such forests of weed are happily not known in warm latitudes -
were they known hence thousands of birds & probably seals would be
deprived of nourishment - 3. The low flat annular shores
generally far distant from the outer coasts & abundantly supplied
with fresh water rent are the upper arms of St. Salvador Bay where
the tide are very irregular & where thousands of streams enter each arm.
The beach is clay slate covered with a layer of slimy mud partly
formed by the decomposition of the slate & scoured as who for the
deposit of the streams - Here broad belts of a faded dirty green color
are formed of various *Confervae* & *Algae* creating a slimy mass
difficult to crop from its tenacity & here the little green small *Cladophora*
oyster catchers *Phloxes* & *Chamae* shrubs or seaweeds one or two species
form the mass of this vegetation - In all the submerged flora of
the Falkland it is singular to observe how the higher & more
gigantic forms are invariably found in the most open places where the
full action of the sea is most felt & where its waters are least polluted.
They too receive most light & enjoy a more uniform temperature than
any other plants can this too is a remarkable difference between the
Algae & Lichens that the latter approve their highest forms &

are most developed where they are most exposed to the vicissitudes of the seasons & of the daily temperature. As we approach the shore & a less pure state of the sea water & a present lower form, & finally where the beaches are flat & sandy & the tides expose much surface, where the water is much deteriorated & the plants exposed to the cool of the water & the heat of an overcast naked sun they disappear altogether or present the lowest forms of organization.

June
Arrived at "Largoport" Lt. George Paulet Capt. Through a brother of
Leach Smith's on board (Lt. Henry Smith) I heard that my father had just
been directed to me on board a ship belonging to Mr. G. Whittington consigned
to Mr. J. B. Whittington on these islands. Also heard that Mr. Fyfe &
Pembroke were coming out here with our despatches on their way to
Torres Straits. We brought the "Custard" "brow pint" & "Arcturion's" cap. also there
Enjoyed a days skimming on the great pond with Mr. Robinson
July 7th Sailed at "Largoport" for the N. coast of S. America.

Aug.
On one of the first truly spring like days walked to the stream of stone
mentioned by Darwin really a most remarkable phenomenon
& well described by him though I can not say any part of it is 10
minutes by leaping from stone to stone. The work is however
most fatiguing & one is apt to slip - The *Stegania* (large) was very
common on it as well as a beautiful new *Aspidium* with narrow
fronds & of a very coriaceous consistence. The Pinnae are directed forward
& upward closely overlapping each the base of the other & sharply
toothed very beautiful on the stony ground near it a good many
Lichens are found - A stream runs at the bottom at a considerable
depth as I could not see it but hear its gurgling course very
distinctly as also its exit into Salvador Bay. Above the stream
but beneath some indeed the stream runs down a valley on both
sides of which that hill into 2 parallel ^{or 3} ~~two~~ portions on the
Northern of which I ascended on April 23rd. This Southern top was
never before one consisting of a rugged mass of quartz 1200 ft high

mt. Vermont & Stream of Stones.

capped with a good deal of snow & communicating with a fine
amphitheatre of hills which joined on to Mt Simon to the West.
Its sides from the abundance of rock were very barren & intersected
by bluff precipices of quartz. The plants except the more hardy ones
were all dead I found however. the rare *Geopelia* not seen
since April 14th. & the *Chaparral* ^{surfers} ~~giant~~ *thru* amongst stones at
a similar altitude & the specimens gathered on Mt Lamo - on the top
was a long exposed narrow ridge of quartz running S.W. with a
tabular top completely covered with the hard snow it is a
formed of a strata whose strike is to the S. These strata are all broken
up into cubes with spaces between them which made this top very
rock exceeding dangerous to climb. This knowledge arises from that
being the form of cleavage of the rocks & the frost separating the pieces.
The quantities of loose fragments over at the very top were amazing &
had a very threatening appearance. It appeared to me that between
this top of Mt Vermont & its northern ridge opposite one between which
the stream of stones is, that stream might be doubled by a very slight
shock from an earthquake & when it is further considered how much
steeper the banks of the valley must have been & with how much
proportionate rapidity the stones were loosened it appears to me that
the stream of stones might all be formed within a very short period
after the elevation of the quartz. Stupor does as it appears & really is.
The Polar glaucous was abundant even the top & on its top there
grew a scarce *Polytrichum* like *Septentrionale* of the North. On the
rocks I found a new *Grimmia* scarcely fruit somewhat like the *f.*
pulvinata. On returning at the head of the May found a shooting
party Mr. Lell had just shot a gander on the water when the
gun would not leave its dead companion but kept swimming about
him until likewise shot. This species is I believe thus shown
only during the ^{spring} ~~winter~~ season which has not commenced. The party

had seen a Fox at St. Salvador Bay & shot some specimens of the *Larus rubicundus*, a lovely small pink cold black headed ash backed gull with red legs & black. The new bird I have lately seen on this one which is migratory had disappeared before our arrival & had just returned a few like the little *Amphispiza* but larger belonging to Dr. Robinson & a little Lark - Two red colored Dunks had been shot by Pasmall at St. Salvador Bay but could not be picked up. Mr. Robinson (of fish house) showed me the little Petrel which we at Reguena's house call the Stotze it was shot in the harbor - I have also seen a Hawk very like the common *Caracara* but stouter & shorter built with bright yellow & very large beak & talons, feathers on the neck more distinctly a copper color of a similar color to the common *Caracara* but with a broad rusty band just above the top of the tail.

A most lovely day walked to Urania Bay. The ground in the morning quite hard from the previous night's frost. I have often remarked the formation of ice to cause a singular phenomenon - In some frequent small isolated bare spots on the clay formation which are quite destitute of vegetation the soft dense snow is covered with a narrow stratum of pebbles & coarse sand which in pretty weather seem suspended separately in the air a little above the ground. In kicking a piece up I was quite surprised to find that an inch & 1/2 of vertical parallel loosely connected ^{prismatic} crystals of ice rose from the surface of the snow & supported the gravel above it. The ice thus formed was very beautiful & closely resembled a loose specimen of fibrous gypsum or still more nearly the mineral Thomsonite as the weather was cold I carried it for a long time in my hand when the effects of the sun shining through these pillars was sparkling & beautiful. The prisms were of uniform height longitudinally struts generally compressed with 3 or more angles 1-2 lines in diameter. The mud or soil below was not frozen below its surface. The ~~some~~ deciduous ~~leaved~~ plants have already begun to show leaf especially the *Opalis conocephala* & some of

Merame Bay.

the grapes - The little Lampyrids have within these two days come over in immense abundance with N.E. winds they completely cover the ground & beneath all directions amongst the grapes except at the rainy season they are said to be confined to the neighbourhood of the beaches as on our first arrival - Snipe have also lately come in & they are said to be frequently heard at night whirring over heads. Though one looks very closely for Cryptogamic plants in all high N.E. latitudes it is strange how many escape us in so much that I have hardly ever gone out without adding one or two to my collection. Today on the rocks a little stream formed a fine Pocket Trichostema sometimes in short tufts when the fruit was abundant at others having long floating stems in the stream - Merame Bay is open to the E. & has a fine sandy beach backed by two parallel rows of pine sandhills like those of St. William & producing similar plants. This spot had much interest to me from its being the situation of the encampment of the Capt. Freycinet his officers & crew when wrecked on their homeward voyage after a cruise of his coast. The "Uranie" sprung two men the N.E. Entrance of the harbor struck on some sunken rocks & to save his ship Capt. F. ran his up as she was fast filling & she finally struck on some rocks close to the shores of this Bay. It was a most providential thing that the wind was at East which is not the case once a month & never for a day together had he experienced the usual winter weather of these regions they much have taken to the boats probably with disastrous consequences. (I have a sketch of the scene of the encampment done by a ^{& kindly} sent me by the Governor) I easily recognized the precise spot where the Parson had his cell dug in the side of a cliff & the flagstaff hill the traces of the "Uranie" remain but for 5-6 tons of iron water-trunks & about 20 lbs of old copper & a little wood &c. The results of Mr. Freycinet's

magnetical observations give the nearest approximation to the true position of the S. Magnetical Pole of any made previous to our determining the spot. It was wrecked on 1822 in the immediate neighbourhood of the scene are two large shallow fresh water lagoons in one of which I found *Gaucha* mud *Limosella tenuipolia* L? & *Physicophylla* besides all the other plants (almost) that he mentions, close by. - Found several *Asper* on the sandhills especially a large *Tortula* in a fine state & a *Jungermannia* bearing some fruit on some shaded wet rocks. - Saw several flocks of the small black headed gulls which have lately arrived & are really very beautiful birds their colors being especially oblique they have a hard loved serian & in the way they fly about irregularly & dip to pick things of the water they very much resemble Tern. The pale rose color of the belly & breast outer gills & tail feathers is of the most delicate conceivable & sea only compare it to that of Rose Quail they say here that this color fades & is lost after skinning. Much depends upon cleaning the skin in which respect for much care can not be taken with sea birds. An long gloss doubtless depending on the close contact of the plumage gives a glistening appearance to the parts of these ~~land~~ aquatic gulls & Petrels which are immersed in swimming this feature is most remarkable in the white Antarctic Petrel. - Sent to the Governor & sent to my great delight many young plants of the *Lupae* growing in his garden planted & sown by the former farmer they were very healthy & promised well being raised from seed there is little doubt but that the plant will do well elsewhere. - Had some Tongues of the Sea elephant given to me, rather & much dried, they are broad & flat oval in shape dark red brown not only to the taste & smell, very heavy & weighing 6-10 lbs. apiece. For coal skins sell here for 20/-30/- per skin they are getting very scarce on the island. The fisheries are ruled by Government.

Sept
1852

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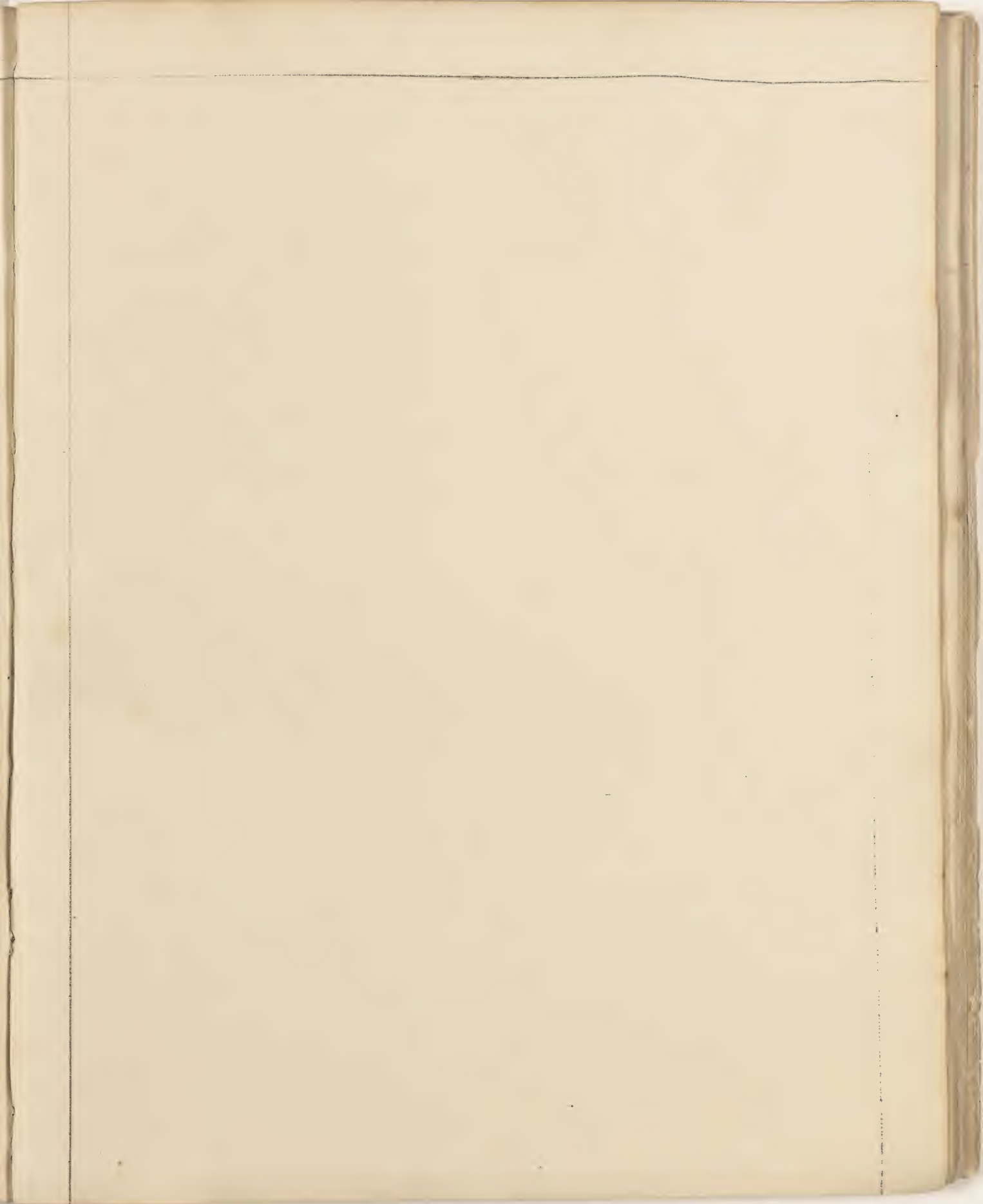
Went to the 1st cutter dredging for Marine animals with tolerable success off the mouth of the creek on the S. side of Berkeley Sound Vahia at Wharfedale. Kept a sharp look out for any remains of the Wharfedale on the rocks where she struck but to no purpose the whole ocean was covered with a forest of Kelp & about the bases of it was the most abundant but the *Phaeocystis* most striking, looking down on the top of its branches covered with pendulous leaves which completely obscured the view of the bottom reminding me of a gulch of foliage as seen from the top of a hill in New Zealand. What swarms of animal life do they protect, what a miniature world of the lower order. I often think that these two weeds are of more use in the animal economy than any other cryptogamic plants. They perhaps also operate on a grand scale in purifying the water near shore where the dead organic remains justifying on the beach & deposited through the lateral region of the Ocean must tend to the pollution of that fluid. - It would be interesting to know whether they, like vascular plants, absorb carbonic acid & give off oxygen gas, the green color of many of them would lead me to suppose so & at any rate the wholesome nature of the whole of them would warrant me concluding that their functions are widely different from that of the Fungi. The noxious properties of the latter arising from this simple truth that they give off carb. acid abundantly distinguishes them from both algae & lichens & although the borders doubtless inordinate or speaking more correctly perhaps include two other ordaining groups, in general terms the following distinctions hold good in the higher classes of each.

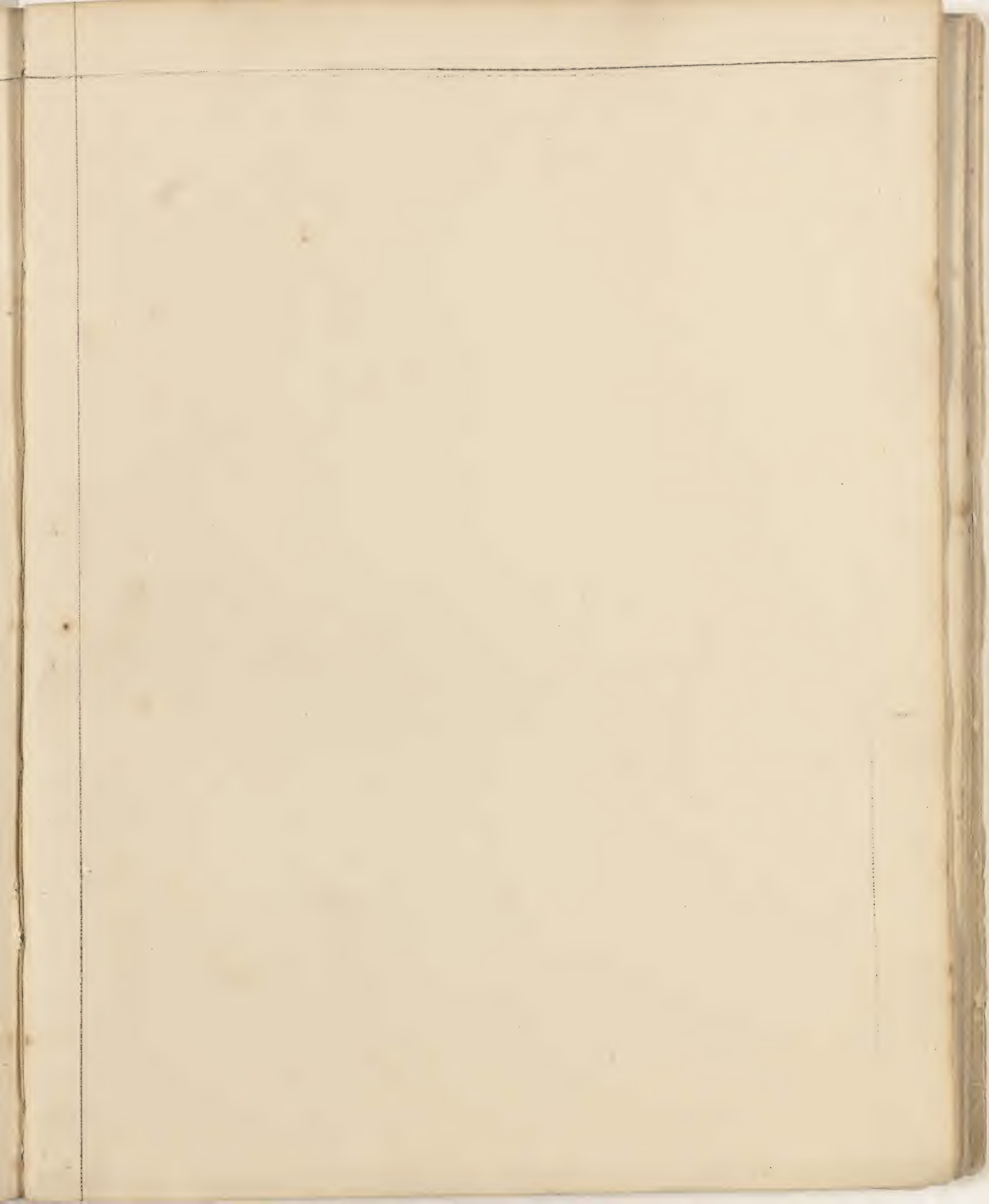
Algae	Fond of light.	Wholesome	- Like an equal temp. - absorb carbonic acid
Fungi	Generally do.	Unwholesome	- Only thrive in warm. - give off carb. acid
Lichens	Particularly -	Wholesome	- Delicately in extremes of temp. & light

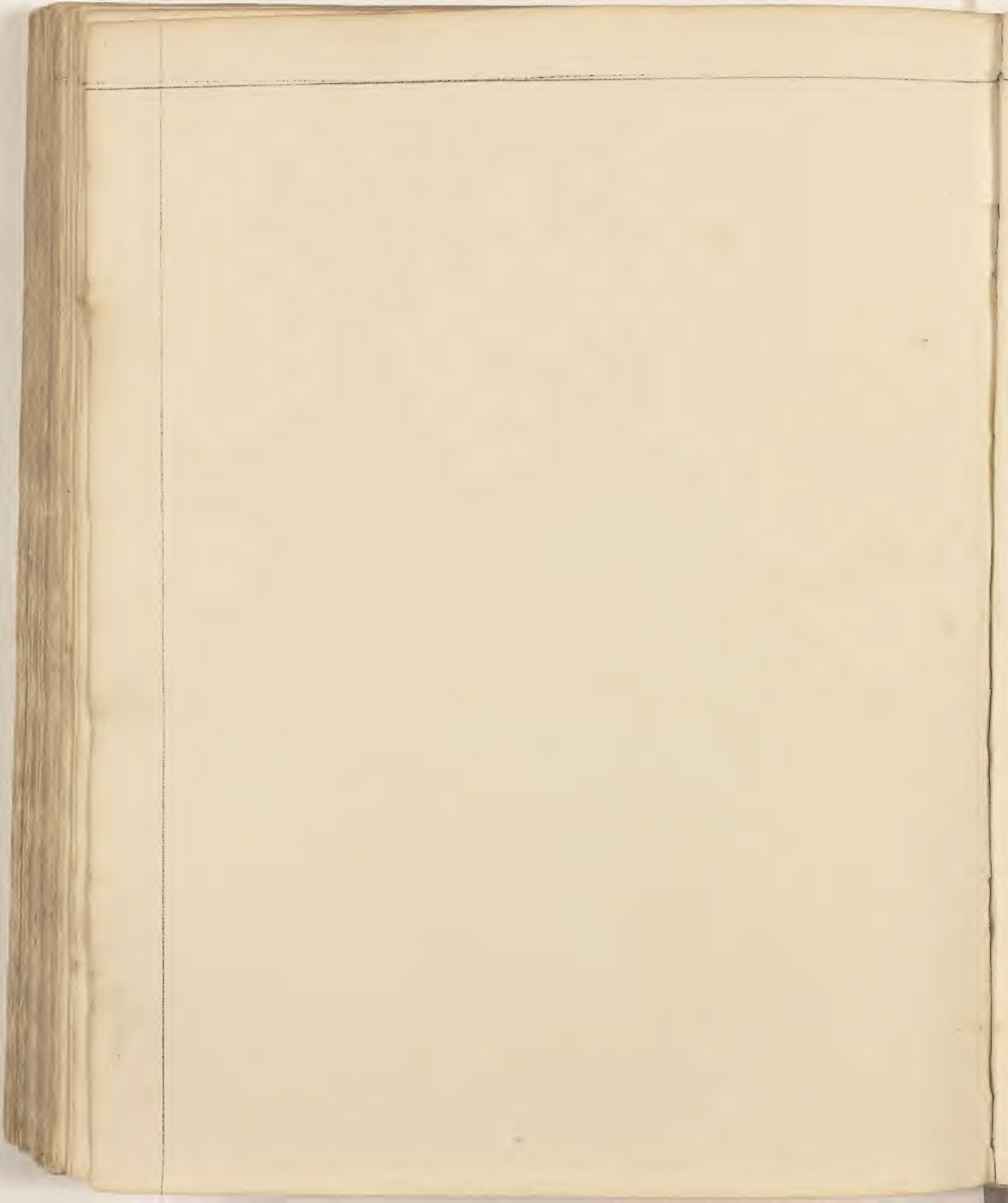
x As they do, vid. Daubigny in Phil Trans. { daily & substantial }

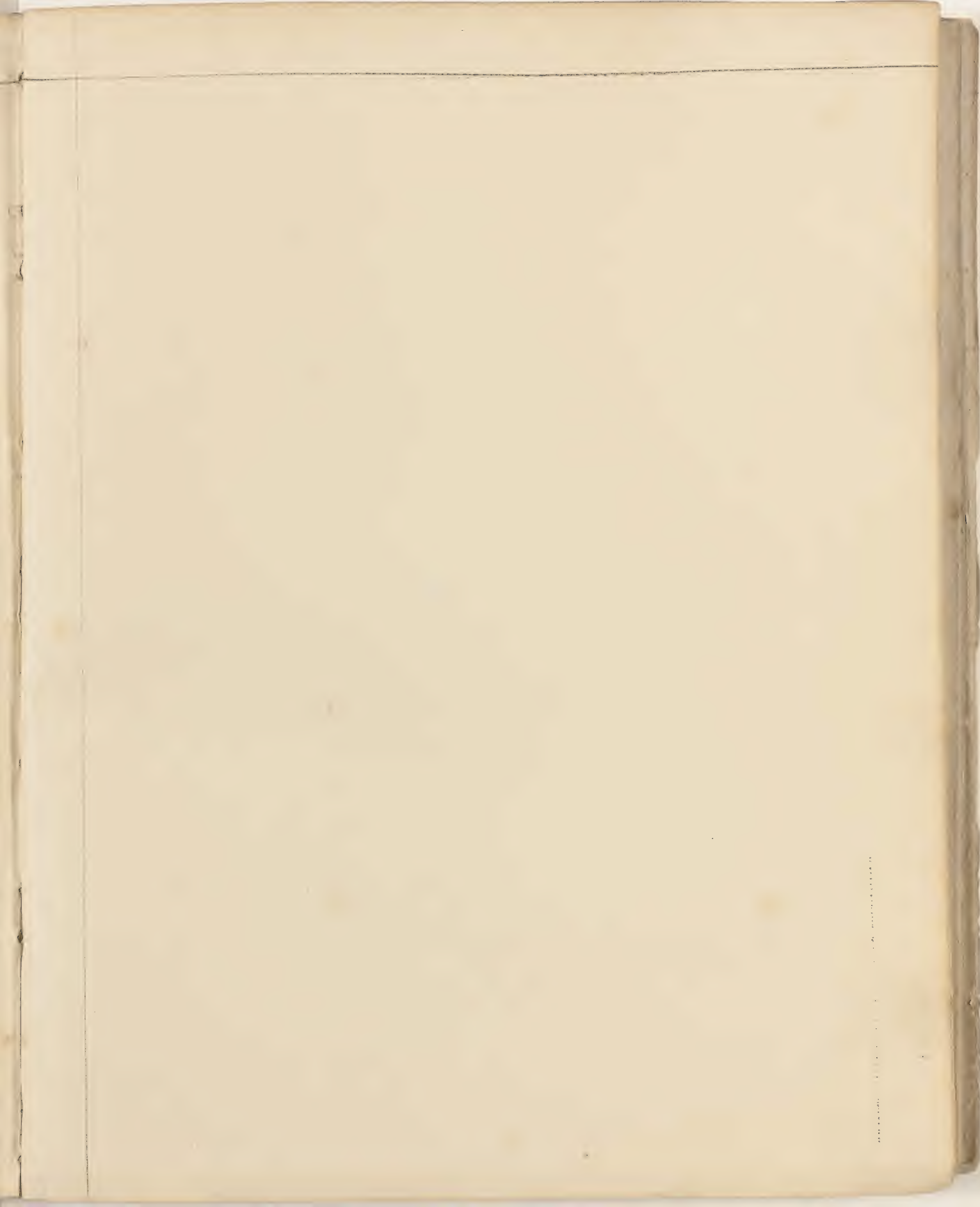
went dredging again into the creeks with good success - The dredge
 generally brings up a few shells of 2 or 3 species, 2 univalves & 1 bivalve
 not abundant. Also I have procured 2 fine specimens of the *Voluta*
magellanica which is of a pale pink color & no other shells of any
 importance. On the beaches however 3 species of *Patella* & a *Lipurella*
 are not uncommon with a few other univalves & a large *Lucorina*
 called the *Chlam* here & said to be good eating also very large *Buccina*
 of three kinds all good eating. Of *Chiton* there are 2 species, one very
 large is about 2 inches with a blue red border the other much smaller.
 Of *Nautilus* *Nautilus* there are a good many. *Coccidia*, a noble *Portunia*
 as large as a Potato sometimes nearly up to & sometimes *Spicula*
 2 species of *Goris*. Of *Crustacea*, a *Dysmenosoma*, a long legged & short legged
Crab. The *Squilla magellanica*, a hermit crab inhabiting various
 shells. a very large gregarious *Squilla* very common under the stones
 with several smaller *Gammarus* & other *Aspid* *Crustacea*. I have
 remarked in the South as Anckel. Campbell. Sir. King Land & here that
 though *Amphipoda* & other *Prodeuteralm* *shrimps* are not uncommon in
 the open sea they are rare or perhaps almost wanting near shore or
 in the salt water ports. The *Amphipoda* *Galathea* is an exception.
 The *littoral* tribes of *Amphipoda* are in considerable profusion but especially
 the *radiata* animals sponges small corals, *Flustra*, *Cellaria*, *Eicharia*,
Sertularia, *Crisia*, *Clytia* or genera allied to these. Of *Actinia* several
 species which generally grow beneath stones here except one handsome
 animal (*Anemone*?) found on a live *Voluta*. *Psolus* are rare but
 one enormous species is often thrown up on the beach (and others) it apparently
 belongs to the genus. Of *Echinodermata* one very large & one small *Sipunculus*
 one small *Ophiura* & a *Spatangus* all obtained by dredging also two
 or 3 species of *Hydroids* numerous abundant on the muddy bottom of
 Port Louis in *Hydrom* water. Of *Amphipoda* *Serpula* & *Amphipoda* *Theraps*
Aphrodite & a land *Lumbricus* should have mentioned before

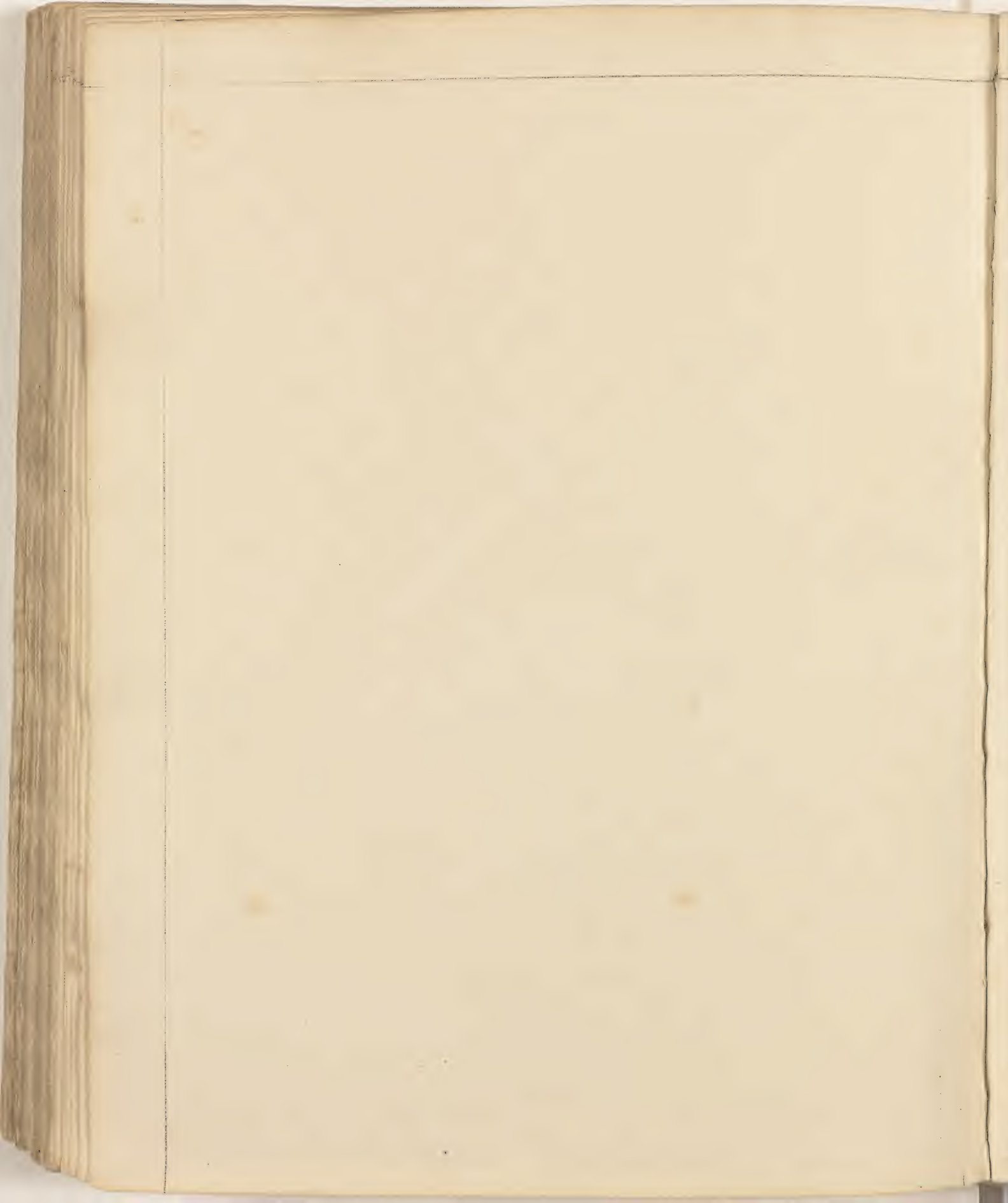
Landshells are very scarce one minute Planorbis? from salt marsh
is the only one I know. Insects are also scarce. Spiders 1-2 - 2 small
Carabids & a ^{Coleopt.} which I found on the flowers of the Lupae are the only
~~was~~ ^{met with} - Diptera 2 sp. Miscus 1. - Phygadeuon? (a larva) is a larva.
The absence of insect life is a remarkable feature in all these Southern
Islands & is quite out of proportion to the Vegetable Kingdom.

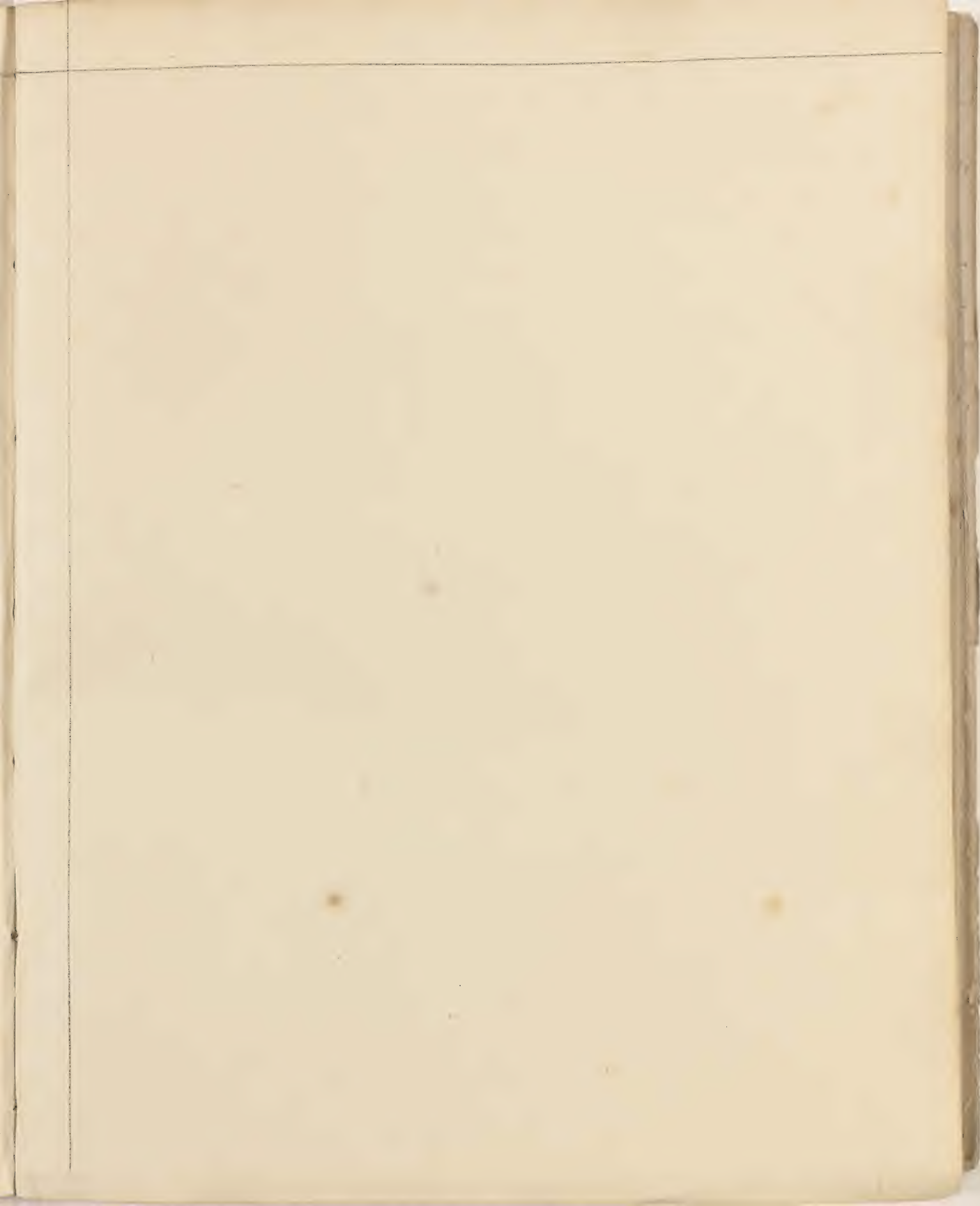


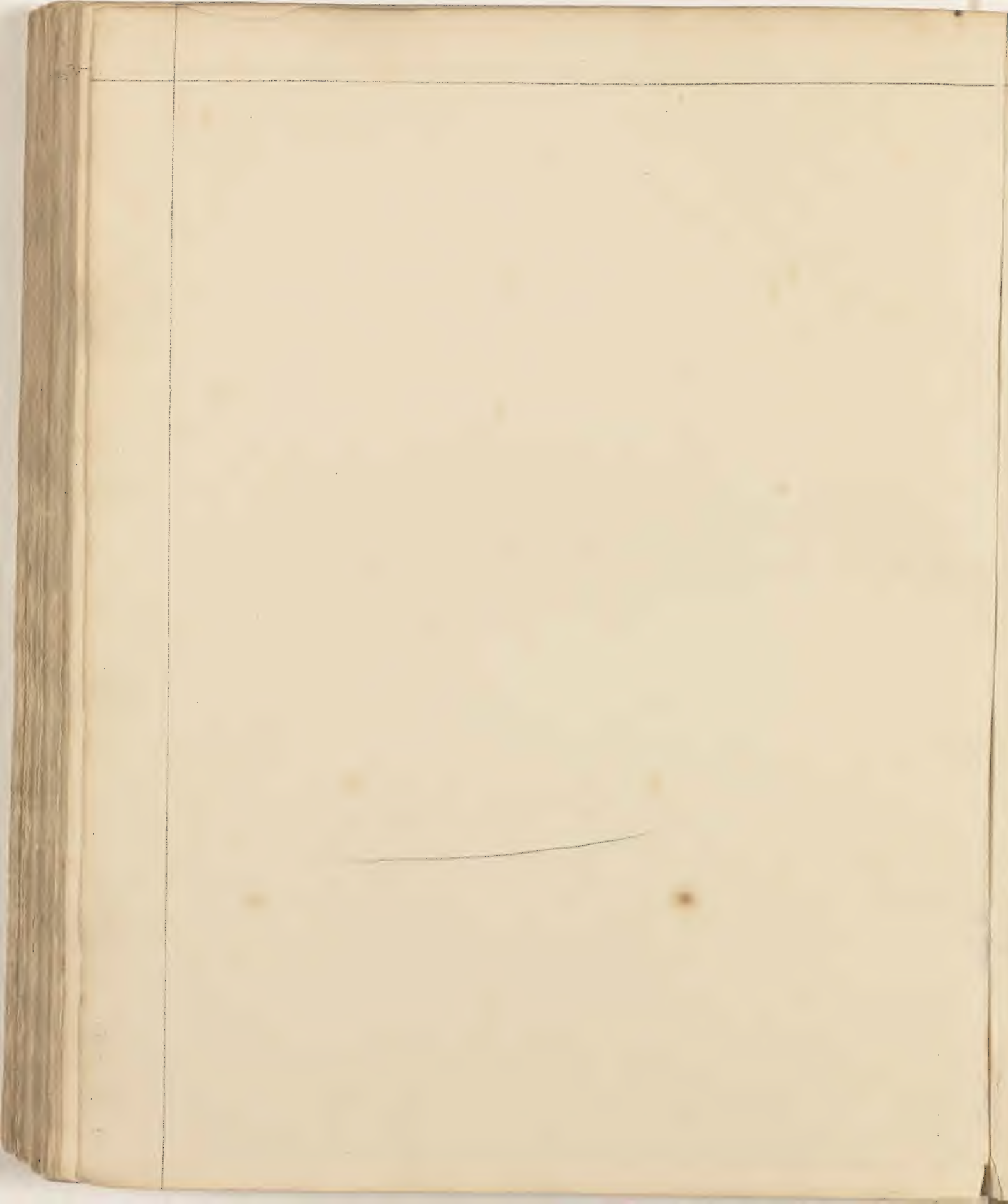


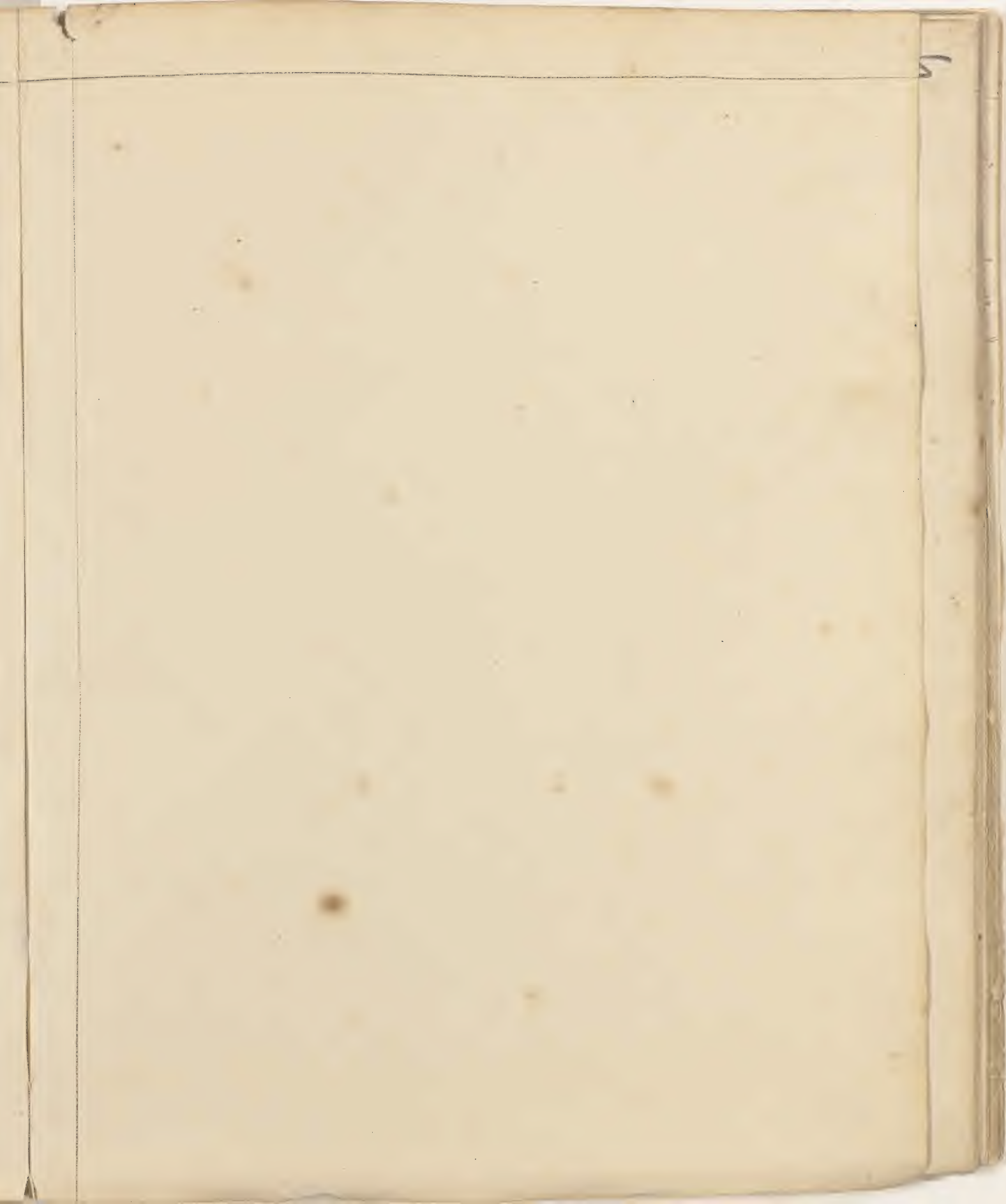












Reginaldis Lanius Lanius

Chionis niger (Lanius) 1. Lanius Nid

2. Dark

Procellaria gigantea

3. Large Petrel

Diomedea fuliginosa

4. Blackish, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Lanius

5. Black, white, varied Petrel

6. Black backed Gull

7. Lanius

Myiagrus

8. Lanius

Procellaria capensis

9. Large Petrel

10. Harrowing Petrel

Aplousodytes serripes

11. Penguin

Myiagrus

12. King

Chrysomitris (Catanus etc)

13

Diptera caerulea ?

14. Blue Petrel

Diptera ?

15. Blue Petrel

16. Blue

Journal.

Commenced September 1st. 1842.

- This day morning at 9 1/2 AM weighed & made sail down
 Berkeley Sound with the wind at N.W. cloudy & damp. The Barometer
 high 29.352 (63) having had fine weather with N.W. winds for an
 unusually long period we expect a few days of hard S.W. gales which
 prevail in this Latitude. In the afternoon the wind drew round to S.W.
- 9th Lat. 53° 3' Long 57° 55'. Temp Air 37-32 Sea 42-40. Bar.
 Wind round to the N.W. & N in the morning with a falling Barometer
 & a S.W. gale (9) with snow squalls in the afternoon here to under close
 reefed topsails & staysails - Here to.
- 10th Lat. 53° 19' Long 56° 49'. Air 31.5-39. Sea 39-42. Barom.
 Blowing a heavy S.W. gale (9-11) with the Bar. rising moderating & drawing
 to the weather & some night with more rain & hail. In the morning
 carried away the after upright Sail of Port Cutter. Here to.
- 11th Lat. 54° 11' Long 55° 22'. Air 40-36 Sea 41-39.5. Barom.
 Still blowing very heavily from W & S.W. with much rain & the Barometer
 falling - Still here to.
- 12th Lat. 54° 19' Long 56° 47'. Air 34.5-40 Sea 39.5-41.5. Barom.
 Blowing very heavily (9, 10) Barom. rising with the wind drawing to the South
 much snow - passed a patch of seaweed - Here to.
- 13th Lat. 54° 6' Long 54° 37'. Air 34.5-31. Sea 40.5-38. Barom.
 Southerly variable light wind in the morning. Freshening up with the
 Bar. rising from the S.W. again (7, 8) snow all day. The sea is heavy that
 we cannot make sail.
- 14th Lat. 52° 41' Long 55° 12'. Air 33-40.5. Sea 39-42. Barom.
 Wind shifting from S.W. to W with the Barom. falling strong breeze, overcast
 with a little rain & snow. Passed several patches of seaweed, still unable
 to make sail for the heavy seas.
- 15th Lat. 54° 44' Long 55° 22'. Air 39.5-31. Sea 42-49. Barom.
 Blowing heavily (7-9) between W & S. with the Barom. rising rapidly & a
 little rain - Standing to the S.E. with a heavy sea on. Passed some seaweed.
- 16th Lat. 54° 41' Long 55° 12'. Air 30-44.5 Sea 39-41. Barom.
 Barom. rising in the morning nearly calm - falling toward night with wind &
 snow - going ahead at last, 8 knots, at midnight after having been blown
 30 miles to leeward - Passed much seaweed.

Sept.
1842.

St. Sea.

Bay of St. Francis.

17th Lat. 55.0 Long 36.16 Air 33.5-28.5. Sea 42-39 Barom
S.E. wind & Barom rising fast. Overcast & equally running a squally.
Piped some seaweed. The birds seen every day are the 3 Albatrosses, the
Cape Pigeon & ash backed Petrel sometimes the Mutton bird & Finches & other
or shoal of Porpoises.

18th Lat. Long. Air 29-34.5. Sea 37-41.5. Barom.
S.E. wind drawing round by S & N.W. & high Barom. - Piped some
seaweed.

19th Lat. Long.
A beautiful day with N.W. wind & a clear sky. At 8 1/4 Am. saw the
land bearing & consisting of a range of snow peaks which were
the highlands of French Mts. to the N. & Henshell Mts. - soon after
saw the celebrated Horn a little to the South. The low lying hills
Barrowed at the windward as we steered for Cape York. Saw a brig in
the morning standing S.W. By noon we were close in shore passing
to the S. of the curious string of little rocky islets off Cape York & north
the Horn right ahead. The latter is certainly a very fine object being 400
ft above the sea from which it rises abruptly & a shelving precipice, but
it is very far inferior to some descriptions printed of it. Capt. Hall's for
instance if I remember aright - a little snow was on its summit, its
sides clothed with a barren vegetation. The day was too fine to appreciate
it as the horrid Cape described by many older navigators & we have
had too many N.W. winds to have left any snow which must be
tempor - when made in a gale of wind that shrouded in which the officers
doubtless grand like hands were busy sketching it. On entering the
Bay of St. Francis the scenery was very wild & grand from the abrupt
of the hills & their shores the high peaks of Horvate & the rugged snow
clad pinnacles of Henshell Mts. The whole weather shore of Horn Mts
is remarkably bold & stern presenting black escarpments to the sea
with the curious cleft rock at its N. extremity. Still less two a black
steep & abrupt on all sides in the position of the entrance to St. Martin's bay.

more bluff & forbidding than any part of the coast with Katin Peak rising above it is a symmetrical cone of snow. The whole group is indeed composed of the tops of the submerged rocks there is no level plane surface any where. We had a dead beat to get up to the cone & as it darkened a dense moist mist clothed the hills down to the water edge rendering the scene very desolate & gloomy. We however hit the mouth of the cone & anchored in the most cold & desolate spot between two lofty black cliffs not 1/2 a mile across covered with patches of snow whose tops were enveloped in mist & which hung between the ship & rocks adding mystery to the gloom. Soon after the mist fell in the form of heavy snow drops of sleet & then cleared up. The night is calm & the sound of the surf beating on the windward parts of the ice is very distinct.

20th. Early this morning the Captain went to the head of the cone to see whether it was a fit place for the ships & observations. The natives of whom there were 5, all male, the women were probably sent into the bushy cove down & were very friendly. Warped the ship up & anchored her close to the head. The day was fine. The scenery of the cone is the most romantic I ever saw & at the same time the most impracticable for walking. The mountain rises abruptly out of the water in a succession of steep precipitous benches & cliffs to the height of 1000 ft presenting a grand amphitheatre of rugged conical peaks covered with snow at the top & for 1/2 way clothed with the densest matting of flat topped stag headed beech trees of a lively green color with here & there a few of the purple leaved deciduous beech forming a lively contrast to the other. A wilder spot I never saw closely resembling the Tropaeus & many of the ussars of the Clyde, Loch Long & the Duke of Anglesbury bushing green for instance. The mountain torrents of which there are many entering the sea by narrow clefts: the rock are only visible tinged on the hill sides by the dripping of the land & the white trunks of the exposed trees. The beach consists of a narrow belt of rock too narrow & steep for a continuous footpath covered with Lichen & green & yellow tufts of moss & mushroom like plants. Snow

showers or sleet & mist are common & come rolling down from the peaks above whilst the cloud of black overhead contrast strongly with the blue sky & brightness in the bay outside. The Fuegians have been watching us all day & one fellow has been on the rocks opposite to us hallowing & signalling for us to come ashore with a Clantonian voice. Gannerschoner (said Darwin) was the only word they used ashore. Perosall brought me a piece of a bush which I at once recognize to be the Perovicia decapata. This cove is more still than any Antarctic bay I ever lay in, nothing of animal life is to be seen but a solitary steamer duck shag or gull & sometimes a Caracara hawk overhead. The kelp along shore is not abundant and is more yellow than the Macrocystis generally is.

21st The natives of course attract our attention to for any thing else. They appear a very singular people & probably are confined to the shores of these islands, as the Fuegians are said to live in separate tribes at variance with one another. Their appearance quite answers to the written description of the land & latitude they inhabit visited by few ships & cut off from any communication with the other lands & apparently driven to the most remote & unpropitious part of the large American continent. The women of whom there are two are hardly to be seen but the men are all day swimming about the beach sometimes up to their middle in water knocking muscles from the rocks & eating them raw. Some are entirely naked & others wear at most a short skin thimble across the shoulders. The men are broad shouldered with long spare muscular arms & legs, the latter almost without valves like the natives of South Sea. Their chests are flat as are their faces with high square cheek bones flat thick lips & nostrils large mouths & small eyes. The hair is long & dishevelled cut only over the eyes on the forehead & powdered with wet dry chalk or wood ashes as are their bodies some times. They smile & look pleasant on us pointing to any article they want & uttering their tire some Gannerschoner or "give me" as Darwin says. Their canyage is most back they wash over the rugged beaches with more

difficulty than I should have expected after using a stake. Their houses or wigwags are one of the most stretched description circular or hemispherical about 3 ft high. & as much in diameter formed of stakes stuck in the ground brought together at the top & covered with branches of the Evergreen which from their flatness suit the purpose well. Their domestic articles are very few & confined to a small drinking cup made of the flat root of a species of Laminaria - baskets woven out of a species of Juncus or rather

& spears of two kinds, one short formed out of some red wood elastic & the fitted with a bone head & one barb cut into the head which is rather blunt. Others are much larger 12 ft long taper at both ends & with the head loosely fitted to the shaft to which it is further fastened by a long thong of seal skin so that on the animals being struck the head is left in the body. The floating of so large a piece of wood doubtless hinders the escape of their prey by encumbering its motions in the water. One had a necklace formed of a few small shells & except clay on our arrival they had no other ornament. Their canoes are singular & very clumsy. The one we saw was flat bottomed about 15 ft long & 3 ft beam formed of long pulled branches tied to an immense quantity of closely set timbers of the same sort of wood but more slender outside of all pieces of bark are tacked to the wooden frame work the bottom is strengthened by many layers of bark & clay. It was a perfect contrast to a little cockle shell of the Indians formed of cow hides lying on the beach which they examined apparently without at all appreciating its superiority. Their language is guttural & unintelligible & comparisons unceasing in the least degree but their powers of imitation both of sound & action proportionally good. They repeat with accuracy our English phrases & one of them imitated one of our party singing & jumping "Jim Crow" most admirably. The men are not very dirty except about the hair but indeed with their nudity & exposure to this climate it is difficult to conceive how they could be dirtier. The women are much better

I know plastered with clay &c but they have all the cooking & other work to do. The children are little fat bellied creatures of a similar color to their parents which is of a light soapy black, rather lighter than the New Zealanders - No disease was seen among them. Both Buddell & Durwin give excellent accounts of these people though I prefer the plain statement of the former to the eloquent picture of humiliating slavery which the latter paints. To us they did not appear so very miserable or rather it was evident that they could neither know their own inferiority nor appreciate our superior mode of life. - Hanger must be anxious often to fish them in the winter season when fish are scarce - Shell fish are probably a staple article of food & their hardy habits enable the poor women to remain in the water at 38 quite naked & up to their middles & wading about in snow equals to collect small limpets & other shell fish for their husbands as I the other day saw. - A curious Pigeon with a laterally compressed bill was picked up dead floating to day with a spear hole through its sternum.

22nd Another party of natives in a canoe I saw, Durwin & 2 children asked they were similar to the others & at once all the natives left. Very fine weather all day with light wind - went ashore the first time. - The morning found the Muscovy in some places very dense but not abundant. The leaves are broader & more heart shaped at the base than in the ~~proportion~~ the natives too of a different shape & very large Laminaria are now very abundant with the Durvillia? It is of the same kind as that in Laminaria that the natives make their drinking cups. - The beach is very sandy at the head of the harbor is a beach of large rounded pebbles of greenstone. In all of the Fagus Antarctica descend down to the water side often with fine yellow tufts of the Chrysanthemum frutescens growing in them now with flowers. - The woods are composed of a dense mass of small & slender evergreen trees with here & there a much larger deciduous tree which leaves are not yet developed - Amongst them the beautiful

Montia aromatica with large green glaucous underside) leaves & the *Leis* *chrysophylla* are very common. Close to the sea the *Spium ciliare* is very common & with very much must more succulent than in the Falklands. Several other mountain plants I left for a future occasion & after visiting the site of Capt. Foster's observatories & numerous excursions through the bush where the noble *Splachnum magellanicum* grows I plunged into the wood which is not nearly so dense as it appears especially along the watercourses where the trees are larger. The *Arbutus* *lanceolata* forms a very dis agreeable underwood every where but very pretty to look at. Proper *Jungermannia* & noble Lichens abound & in particular *banderana* especially the *Leptogium* *Changii* & some *Phle* which form large & conspicuous features in the woods.

All these transition Antarctic regions where the climate is uniformly damp & not subject to extremes of heat & cold seem very rich in aquatic forms of species of Lichens Proper & Algae. I saw particularly how ever that species are more abundant in the zones which experience especially of temperature chiefly more from the ocean. Ferns were much more common than I expected a *Hypnum* *phyllinum* similar to the Antarctic had *Common* species & a little *Asplenium*. Perhaps the *magellanicum* were the most abundant with the former especially. They however hold here certainly an inferior place in prospect to other orders than in the Falkland Islands. *Fungi* also are scarce probably from the season for I saw no *perennials* at one but a solitary *Microcladia* amongst the lichen. Ascended Katus Peak by a ravine to the South & amongst some very large trees of the *Sanguin* bush about 30-40 ft high with trunks 1 ft. in diam. amongst them the *Microcladia* black attained rather a greater height & a diam. of 3-4 ft. though seen also in great numbers partially decayed. This *Sanguin* bush ascends on the S. side of the cone to the height of 1000 ft & forms from the base of the sea to that height a broad belt of dark but vivid green & containing a very peculiar vegetation throughout above it is a belt of the *Microcladia* *black* which is covered by a tree of some size for 2-300 ft. above & on the

smaller shrub for 50 or 600 - Its branches more from the base & has more
spread for its limbs than the evergreen & with it a lower more
open country with a remarkable quantity of small hardy tufted
alpine plants commence such as are not found amongst the ^{ever} green
forests. The snow lay abundantly all under the branches of the
deciduous black in one continued patch out of which the trees appeared
to spring. & over which the walking was easy though there were
many successive holes & round the roots or trunks of the trees was
a narrow clear melted space - There was however a rare sight to see
the limbs of these trees covered with such stictis & muscous such as
large broad tufts of the *Leptogium* & *Leucodon* *lappaceum* hanging
over snow of several feet deep - a moth answering to our *Musci*
in the soil & etc of Scotland. As the woods gradually diminished in size
the *Arbutus* *monacensis* disappeared & nothing but rocks & *Hebe*
steep covered with snow appeared yielding a new flora especially
of *Hebe* & *Lichens* the beautiful *Desmazieria* *melanocarpa* & various
Dicranum *Trichostema* *Leucocarpus* & other well known forms of *Cryptogams*
which are common in cold & exposed climate - a few tufts of yellow
grass & such few hardy perennial plants & could survive the winter
snow were the only *Phanerogam* plants except hard tufts of *Hebe*
& *Valeriana* & *Laetia* which appeared new forms of the well known *Valeriana*
expressly made for a uniformly cold & bristling above *Laetia*
above the wood the top of Kaituma Peak rises in a regular cone with
a cliff on the S.W. side all was covered with snow but the rocks
from where from the sun had just washed it - when still the *Desmazieria*
melanocarpa was the boldest plant - all the summit is composed of
a beautiful dark green turf with here & there *Desmazieria* *melanocarpa*
Valeriana forms & *Hebe* the rest.
At the top I made a collation of all the plants found within a few 100
feet of the actual summit - It seems there was probably raised by the *Mass*

Insects were very scarce, ^{all} of the flower Coleoptera found under stones & a Spider not very common forming a white crest. Amongst the knolls is a little *Plumbago*? an *Oniscus* & a few other beetles apparently confined to the woody region. The view from the summit was very fine including all the group to which the Horn belongs the mountainous land of Mexico to the North & Diego Ramirez rocks on the distant S.W. horizon. The positions of the wood as seen from the hill tops were remarkably confined to the leeward shores & sides of the mountains whenever there was an exposure to the S. the S.W. especially or N.W. all was bare or covered only with the stunted branches of stagheaded deciduous bushes mixed with rushes & patches of snow a large valley with a S. exposure was beneath me particularly bare all brown & white with 2 or 3 lagoons in it & a shore with a misty sea surf breaking on it. The Evergreen forest however always held a struggle with the Elements whenever the nature of the country afforded it a footing. The deciduous one is however the more truly Arctic the plants flourish here when the other cannot show its leaves & forming a broad belt of brown sweep & branches above the deep green of the evergreen forests. The position I held on the top of the peak was very interesting as being the ultimate peak of the vegetation of the vast American continent & at a height of 175 ft above the sea. In fact only 2 or 3 Mangrove plants had attained this height & the great proportion of Lichens & Mosses proclaimed it as not far below the limits of perpetual snow. It is true that forms of more temperate & even tropical zones penetrate farther South proportionally than they do North. Hence the wonder & curiosity excited at fine dry arborescent *Passiflora* & *Cuscuta*. *Fuchsia* & *Tomato* in the wood with humming birds & Parrots amongst their branches the more especially when these are contrasted with the bleak & scanty ^{maritime} vegetation of the hill tops only a few feet above them. I am apt to consider these Arctic wood as insignificant in comparison with the Arctic as the hills are unproductive and so it appears at first sight but I must suspect that this luxuriance of large forms, ~~forms~~ the whole is very deceiving it appears tropical but

shelter no tropical amount & variety of species, it appears vastly superior to the barren Pine wood & Birch groves of Europe & Asia, but does not contain the ^{Pyralis} *Trinitalis*, the *Linnaea*, *Silene* of various species *Rubi*, & the beautiful *Orchidaceae* - Nor is there the variety of foliage of the *Alder*, *Salix*, *Populus*, *oaks*, *ash*, *Mountain ash*. Still up to the plains contain the *Saxifrage* *Primula* & other things to be compared with them, or the sea coast the *Grass* *Compositae* & *Lithospermum* & last of all the alpine rocks, present the beauties of the *Veronica*, *Draba*, *Erigeron*, *Myosotis* or *Saxifrage* - The beauty of their wood is deceptive from being truly disappointing to a lover of flowers, it is however most singular, peculiarly adapted to a uniformly cold & wet climate which has no analogy in the northern regions & though the mean annual temperature is that of Siberia. The *Tree* wood here can only be compared to the *Birch* of that climate, this is beyond the limits of the *Arctic* of N. America, & that is of the *Pines* of Asia or as the *Rockland* *Birch* of the *Polynesian* of New Zealand, they are eminently northern climates especially with regard to vegetation though considering the nature of which some of the plants belong it is difficult to assign to them so harsh a name.

- 23^d Employed in arranging my collection & was gratified with the number of *Cryptogamia* especially of *Asper*. Received a *Hippocampus*.
- 24^d This afternoon went ashore to walk along the beach opposite the ship but found the travelling very difficult along the wood, & more so on the rocky beach which was frequently interrupted by deep fissures with water coming descending from between the rocks. Found the *Falkl. Id.* *Myrica* growing in the wood the *Coccolinia* *strepens* & some *Asper* on the rocks. Went on board the *Tenar*. A launch with 6 men 4 women & 4 children arrived in the morning & left the Cove in the afternoon pointing to the hills at the head of the Cove & then towards the open bay with a rushing sound & accompanying motion to intimate as if afternoon and present

that snowy weather was expected

29th Thursday - Dressed into Smith on the N. side of the harbor to
ascend Mt Foster a curious jagged peak with a bluff precipice to the
South. A low range of hills runs parallel to the coast between it & the
higher peak they are closely covered with the Sycamore bush which from
its South aspect is very small & stunted, at the height of 5-600 ft.
There is a broad valley amongst the hills with some Lakes & or rather
mountain Tarns & a great deal of hard frost with densely coated
with alpine plants but chiefly in water with the *Arctia Juncea*
& the beautiful *Donatia magellanica*, *Pyrola asarifolia*, *Gracilaria*
australis the ferns *Myrica* & similar plants. Some of the
Sycamore bush here on the slender twigs another species of *Arctia* -
den dense formed the *Arctia* are crowned with last year's flowers
under some snow with many mosses & lichens on the bog & rocks
This part of Mt Foster is formed of a loosely crystallized but hard massive
rock whilst the summit perhaps 1600 ft high is composed of a very
compact close grained fine hard greenstone very magnetic but soon
losing that property. And a noble snow all around from the top
where I spent some hours viewing a complete flora of the position -
Potamogeton gathered a little *Orthotrichum* on the maritime rocks.

30th Friday Potamogony amongst the wood at the head of the Cove &
found many new species especially the noble *Polytrichum*
densissimum & a singular *Arctia* of a new form - On the deciduous bush
found a singular fungus allied to *Monorchella* (a Darwin's Edible Fungus)
which I have not seen, it was scarce - Many lichens & fungi seen
amongst. Fungi are not common nor have I seen any perennial ones -
On the rocks of the beach a little *Carduus* grows with a *Trichostema*, small
Trichostema & *gracilis*

31st Saturday a very bad day with heavy rain & squalls of rain & fog.

October
1842.

6th. Landed at the head of the cove & walked up the hill to the right which appears to rival Katusi Peak in height in the woods found the Polytrichum denudatum sparingly in fruit & with 5 flowers by the side of a water course also the Splachnum magellanicum a very splendid moss growing on the fork of an old tree. There was much snow at the top of the hill where the rocks were covered with Ambrosia & other herbs. & all the Phorm vegetation was backward. In some places the frost had detached large masses of the granite rock of many tons weight over the snow. This hill presents a narrow ridge at the top running N.E. & S.W. precipitous to the N.E. & sloping to the N.W. The horizon was very clear & the view good. descending the N.W. side found the whole hill side very barren formed of loose stones supporting very little vegetation & arranged in parallel ridges from the force of the gales. - A broad valley which descended lead down to St. Joachim Bay but the wood in it was so excessively dense that it took a long time to get down first through a belt of the deciduous beech & then through the evergreen with an underwood of Berberis & Pernettya. Put up two wood cocks of which a couple had lately been shot. Birds are however very scarce on the island especially the wood cock & a Lark a sp. of Oryzopsis of large size. Returned by the ridge at the head of the cove..

7th. A very bad day with rain & squalls. Went ashore for earth & then for Mr. Ward's case. The (comparatively) great many fine clays which we had had lately are causing the spring to rise once. The lower twigs of the deciduous beech are turning green from the beautifully delicate pinnate leaves bursting through their bristly stipules & showing a delightfully fragrant resinous odor. - The evergreen beech begins to bud & the Berberis ilicifolia & Wintersia to flower. The Escallonia leaves & the Accacia & other small plants sprout. The grapes are very backward as are all the New continent plants. One of the natives arrived with a small fur seal skin brought by Capt. Peck for a knife.

Saturday - A fine morning started with L. Smith & Shumette for St. Joachim's cone. - Ascended the valley & crossed a large snow patch arrived at the ridge at the back of this cone which ridge looks towards Cape Spencer & St. Joachim Bay but instead of descending at once through the woods we kept along the ridges to the S.W. where the walking was good over the snow & rocks which were almost bare of any vegetation but Lichens wherever. however a sally afforded the best shelter & soil the deciduous beech established itself & sent its prostrate branches far & wide. - on the ridge picked up a good deal of rock abounding with an iron ore probably an arsenious sulphuret of iron from the fumes of garlic & sulphur it gave off before the blowpipe leaving a red oxide of iron. The rock was an excessively hard trash of feldspar with long crystals of hornblende which looked quite coniferous from the metal whence the place was christened St. Edwards. This rock did not attract the compass but some hard common tough mass did us class a great deal of the close grained basalt of the Mountains & Capt. Ross says the specimens have all a distinct Polarity. - Descending towards a flat about 1/2 mile broad separating St. Joachim Bay from one entering from the S.W. & connecting Cape Spencer with the sea. saw some natives near a hut who commenced firing. &c. & came to meet us at a granite rock by which we sat down. - The flat sandy beach is covered with a Tritium some other Grapes & the Celeri the rocks with a little Colobanthus, Plantago & the Agozella filamentosa a Procella & some Musci. on the cliffs the Peronica olucipata formed a handsome shrub & below it the granite rocks which are of a dark red color were traversed by veins of a much closer grained granite - The natives were very inferior to those we saw & I saw one of the men was the man we had left at the cone this morning so that he had beaten us hollow in walking over. They readily mimicked us the times which led to them & any thing said. but tried whether they would not along which they put in their mouths & like the Leguminosae

Dublin
1846.

until our backs were turned & then spat it out. Capt. Pepp however
thinks that they cultivate it for its abundance around their hab-
itations it is however a plant always found of agave & the potatoes of man.
Some of the bones of a whale were cast ashore on the beach but there
were no clams or shells but the *Macrocypris*, *Pallia* & a large
Sphaerococcus. Some good mops & a *Pratia*? grew on the sand
On returning saw the natives go back towards their wigwags & were
joined by 10 or 15 others amongst whom were two women with children
on their backs. Found a small exalis probably the *S. magellanicus*
with smooth convex leaflets glaucous underneath it was very small
& scarce & the taste most agreeably acid & sweet like a good currant leaf.

12th Saw the deciduous bush *Fagus entoniata* in full flower for the first
time the flowers are small but pretty from the yellow & red anthers
& burst out from the axles of the leaves before the latter are fully
expanded. the odor is resinous but too strong to be agreeable. The
inner bark of the *Persea indica* yields an excellent golden yellow
dye when rasped & a decoction made of it it is strong clear bright &
taken up at once by linen or cotton after being steeped in alum water
The wood is very hard & handsome but splits in drying. the decoction
smells strongly of roasting apples. The wood of the *Wintonia* is very
white soft & brittle with a pale pith it is something like deal & would
probably do for turning wheels. the microscope the woody tissue is
glandular like the *Drims* of Hobart Town & the *Coniferae*.

13th Thursday. A very bad blowing & squally day. Went ashore in the afternoon
when it began to snow & blow violently - Found a *Pygmaea* on some rocks

14th Friday. Landed on the S. side of the lake & ascended the ridge at the side &
back of Mt. Foster. collected many mops & curious fishes with an antiform
caliche a *Sclerogonia* near *Scorpaenidae*. At the back of Mt. Foster observed the
trunk to contain much horned louse in being who would & some of a grey

later, descended to Deep Water Bay, which stood for Marshall's harbor, found
 the *Castilleja appendiculata* & another species in full flower, also a new *Acacia*
 & *Dracopis* & little *Pinguicula* very like the *Lusitanica* - A narrow neck
 of land covered with huge masses of granite & trap divides Deep Water Bay
 from the great St. bay. The country from exposure is quite bare of trees & the
 rocks covered with Lichens - Large veins of white & pinkish quartz are
 very abundant traversing the trap & granite in all directions - I descended
 through a scrub to the Bay where the rocks are steep & the beach rocky,
 covered with *Tupia* grass & the little Antarctic *Halimolobos* plant & *Psidium*
 etc. I ascended & when finding masses of cork a whole cage which I did
 not see before took wing from a shelf not 15 ft above my head - Capt. Ross
 had seen one a few days before; he was of a dark color with a little grey on
 the head & scapulars of the wings? - On these barren rocks found the alpine
 plants to descend much nearer the sea than they do in the sheltered
 sides of St. Martin's cove - On a mass of cork about 500 ft above the sea on
 the peak above mentioned found a *Puccella* which is strictly maritime
 at the Falklands & at St. Paul's Bay. It only grew on the larger rocks
 does this argue for the elevation of the land, it was slightly altered in form
 cropped over the St. bay over a flat ground covered with a dense matting of
 the brilliant green *Donatia* & the yellow *Castilleja* & *Asclepias* with other
 marsh plants found all this, the E. part of the bay formed of granite of
 a fine close grain very white speckled black with mica & exquisitely
 hard & durable, besides the vast area of the rock is strewed there were many
 huge boulders of it scattered about or piled on one another like druidical
 stones - The beach was formed of large round pebbles of granite & numerous
 veins of quartz some 1-2 ft. broad traversed the rock in all directions
 black clay was common but small with the *Tupia* grass. - Occasionally
 stunted bushes of the sweet gum bush. & smaller entire leaved *Persea* is
 common on the N. side of the Island. - Returned by the ridge of Mt. Foster.

Diary 1848. 1848.

15th

Saturday - started by the same route as yesterday for Maxwell's harbour at the N.E. extremity of the Island. That part of the hills consists of a broad mass of granite of various hardnesses passing into or meeting the trap of Out-Foster & also that of the S.W. Hill. The land is flat very barren dry & seems awfully like the flanks of Ben Mac Duich, the appearance of the land covered with boulders of granite is no less peculiar than characteristic of that formation. Found a beautiful Carabus on the ground something like intermedius. Insects are however very scarce consisting of small Carabidae, one or two Staphylin. several Curculionid. & Heteromera. - The Carabus & a large Curculio are the only ones of any size - Maxwell's harbour which we do not reach until a good 4 hours walk. consists of an indentation of the land about of a semi-circle of 3 hills. Maxwell hill, Saddle hill & Jordan hill. The latter large with a mountain on it. all are composed of a Syenitic granite more or less full of mica. There is a narrow beach passage between Jordan hill & the main running N.W. The principal entrance is between Saddle & Maxwell hill open to the E. & abutting on Wellaston hill where the high mountains of Out-Hill & Kendall's Peak are very conspicuous. From their rugged forms they probably are traps. There are some boats at this harbour with a track running over to the S.W. Hill but we did not see them - Snowed hard on & it is a fairly disagreeable. -

16th

Sunday - Very day. Exceedingly bad weather with furious winds & storm & snow & hail. I hardly think there equals equal the very seldom have one certainly not in duration. The barometer lower than ever it has been in winter with us at 11 A.M. 20.255. The squalls lasted with violence until the moderating about noon after the most violent storm we have ever witnessed here.

20th

Monday at 11 A.M. 20.252. Low. The lowest we have seen in winter. Very day commenced at 5 P.M. very bad weather (vid. ante)

21st

Is broad looking barometrical day is slightly rising.

Friday Went ashore early in the forenoon & returned
 many ropes on the banks of a deep gulch descending from Kater's Peak.
 cut my hand & got back with some difficulty. -

The latter part of this month has been very different from the first from the very
 bad weather which has covered the hills so completely with snow as they were
 on our first arrival. The trees soon show it off but on the stunted evergreens
 above & all the summits above 900-1000 ft are entirely covered. As yet however
 the grapes & other delicate plants have hardly shown any signs of life. The
 deciduous bush is covered with small blossoms & beautiful leaves. - which burst
 forth just before this bad weather with a sudden & unexpected energy. The
 proper seem here to be the earliest harbinger of spring with the evergreen
 bush. Barberry & *Juniperus communis* the *Rosa* & various composite plants begin
 to develop their leaves fully & the *Caltha* are in full flower. The *Monarda*
 ones have got opened. The winter bark appears to flower very early
 as it has been young fruit ever since our arrival here. I have seen no old
 & very few flowers in the most exposed places. *Escallonia* buds & leaves.
 Some of the *Arbutus* or *Persea* etc. sprout now away of the Umbelliferae.
 but the *Celery* which is perennially green & growing. The little *Salicornia*
Cathartus plants with green stems & the *Passiflora parvifolia* buds both leaf & flower.

All the sheltered parts of the hill are covered with an abundant & dense
 vegetation of 1st the evergreen bush from 1-1000 ft. mixed with the deciduous
 bush, Barberry & Winter bark some as abundant as the first which forms the
 mass of the vegetation & the feature of the country in flat places the deciduous
 bush which is forer of exposure always for dominator. The vegetation is always
 scanty on the weather parts of the hill & particularly so on the granite formation
 Above the evergreen bush the deciduous forms a brown (in winter) belt of wood
 running round the harbors ascending about 200 ft as a tree of 5-6 in dbh
 & from that ascend as a bush shrub or straggling creeper to an alt. 1500 ft
 descending again over the weather side of the hills is a dense & impenetrable
 thicket of flat topped stay headed trees 2-3 feet high. On the weather side of
 Cape Spencer is covered with such a vegetation which from a dark red brown
 in winter turns to a hoary green in summer. In Hermit Island I can only
 define 3 regions of plants which from the nature of the land are almost
 necessarily analogous to parallel zones of elevation. The geological structure no
 further influences the vegetation than as I have above stated that all the

that formation is naturally very fertile that the granite is as abundant
 & the granite between the two. In no locality have I seen the geology so
 intimately connected with the Pelagius than in this sublime tract of rugged
 Pelagius that here are the Western Islands. The tract really passes through
 granite into granite basins intersecting itself & rising through the latter
 the hills about many wells & the harbours are numerous granite & very
 bare of trees the ground being covered with *Junci* *Helix* *Gemmae* & *Valer*
 The rock of land joining Cape Spencer with the main is composed of a very
 soft granite full of *Quartz* & a flat sandy beach & except in certain
 maritime plants (some succulent leaves are as active as their roots
 inhabiting the moist sea air) the place is very barren. The West point
 of Cape Spencer an *Opuntia* I exposed to the full violence of the S.W. wind
 I am only covered with a mat for I can compare it to nothing else
 of the deciduous forest. The top is covered with huge ^{trunks} ~~branches~~ of *trunk*
 granite with *trunk* & *Opuntia* & a wider or more barren spot I never
 beheld. its altitude is about 1300 ft & it is bare with the *Ulex* *melanocarpus*
 & all plants of the island as the chart shows the sea is always present here
 up into bays & for it the mountain once arise *Opuntia* the granite
 W. end at Maxwell harbor where features Botanical & Geological are
 truly granitic none of the peaks which are generally of *trunk* or very fine
 closely grained granite or granite (except Cape Spencer) rise higher than Mt.
 Water alt. 1750 ft. & ascending from the sea these regions present themselves
 the Maritime the wooded & the Alpine all these regions are Antarctic
 I mean by this that they present so many plants & forms found only at
 the extremes of Southern vegetation though many plants of the transition
 temperate regions of Patagonia & the straits of Magellan are also found
 The test of the goodness of this division must be in the comparison of it
 with the similar regions - other & remote islands situated under the
 same circumstances, as Auckland. *Reynolds* & *St. John* I think a strong
 analogy will be found besides an identity of genera & even species.
 The Maritime region consists chiefly of low rocky shores so steep & so densely wooded
 that the rocks that walking along is very difficult & often impracticable from
 the deep ravines & water courses for the mountains. There are many plants
 peculiar to such situations & others common to the low sandy beaches which are

extremely rare). The wild Celery, *Acrona*, *Multi-rida*, *Halimolobos* - some grasses various *Carexophylla*, *Plantago*, *Rumex*, *oleupata* & *Leptocolla*? & other plants are strictly maritime in their habitats. Also the *Azorella filamentosa* & *Ruellia* & other *Lichens*, *Orchidaceae* - *Grimmia* esp. & other mosses. The *Macapala* rocky beach is the most common coast pasture even in the harbours, the flat & or sandy only occurs on the granite formation at St. Mary & St. John's Bay. Various grasses & a few ferns seen characteristic features.

The wooded region is the most extensive & striking in all sheltered places it extends for the sea in a dense forest to an altitude of 1000-1200 ft. covering the faces of the steep hills with a dark green mantle only varied by jutting rocks on the lower winter leafless bushes of the *Deciduous* beach. The most common tree is the *Laurus latifolia* next the *F. antartica*, next the *Wintergreen* *aromatica* & then the *Myrica* with an underscrub of *Persea* & carpeting of mosses & a tapestry of ^{these} *Lichens* on the rocks bushes & trunks of the trees with several beautiful species of *Ferns* in great abundance. The change of the season is here marked by the for dried bark bearing leaves in October & flowers in Nov. & by the golden yellow of large flowering branches of the *Myrica* in the *Myrica* beach. The *Myrica* is itself a very ugly bush in full flower now & its petals are of a dull chrome yellow. The fragrance of the young leaves of the *D. bush* is very delightful & reminds one of the *Ricinus* & *Likamabak*. The real beauties of an *Antarctic* forest lie in the lower orders of plants which cover a larger space of ground than the *Phanerogama*. *Foliosus Lichens* are at their maximum of dimensions especially the *Stictis acuminata*. The same may be said of the mosses *Leptotomum*, *Polytrichum*, *gig. dendroides* & various others. These produce a healthy & vigorous vegetation abundantly protecting several *Hymenophylla* which more covered by delicate black rhizomata over the mosses than grow amongst them. Other mosses as the *Hypnum* species have a glistening lustre on their dark green leaves strongly contrasting with the pale yellow of the *pergamenum* lamellate often growing with it. Other plants peculiar to this region are the *Excellaria* sp. a small creeping & climbing *Crucifera*, *Asplenium*, *Magellanicum*, *Tomaria* esp. &c. I have seen no grasses but the *Hieracium* but at the season it is impossible to determine. There are several *Compositae* in

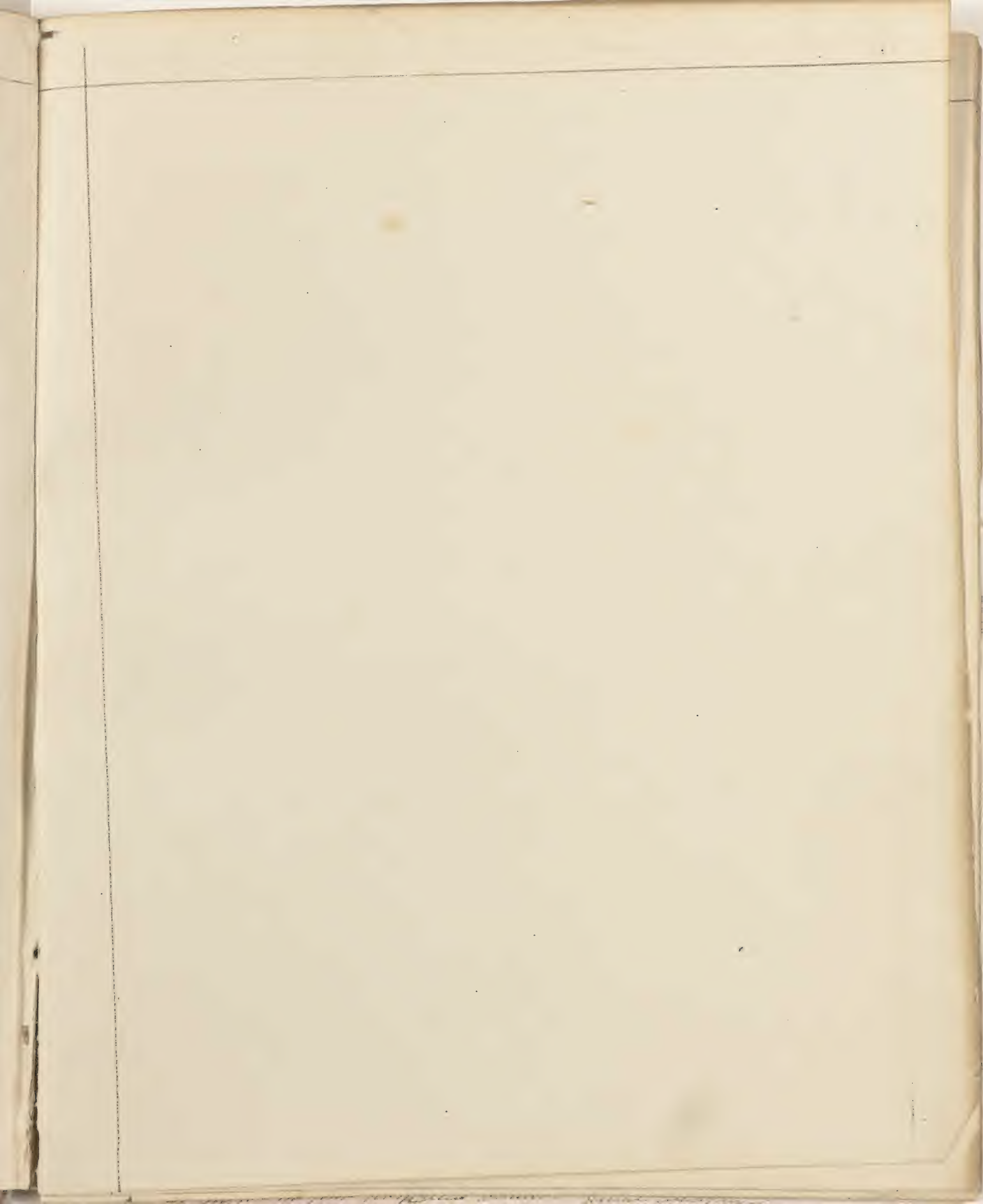
pubescent or subpubescent precisely analogous to the *Hyptis* in the Auckland, it is the *Chilistricium anelloides*. it grows from the sea to alt 600 ft. most abundantly in open wood & the smaller herbaceous composites are probably well known species of ferns one the *Stegaria magellanica* (Petersen of Gand.) assumes a caulescent appearance in various shady places even the sea, the other the *L. polytrichoides* grows but very sparingly both in & out of the wood assuming a very different appearance according to the habitat. A little *Polytrichum* probably the Auckland one here as there grows to a considerable size on the trunks of trees in the wood & ascend the hills to their tops as a very green plant & species of *Symphyllum* are found most of them abundant especially the *S. caespitosum* on the trunks of trees. Some of the trees in the wood attain a greater diam than 14 inches except in the deep valleys where especially the *Sciad. beech* assumes a large size as much as 10-12 ft the first dead trees are generally rotten at the heart & the wood is seldom straight or long enough for plank. The *Winterana* is a handsome tree very unlike the *Parmanium* but much resembling the *Drum.* in its conical form. The leaves are very handsome the fl. in cymes, the bark red inside whitish outside very aromatic & soft much attacked by lichens the wood white soft tough & flexible of no strength however, the natives from its straightness use it for canoes & their spears. The *Barbery* is a straggling sparingly branching soft leafy evergreen, where fl. are the prettiest on the Island & whose leaves sometimes turn of a brilliant scarlet the wood is yellow, the bark much more so soft & spongy & gives a good yellow color to wood & cotton made & when its taste is like sour crab apples the other particularly so

102

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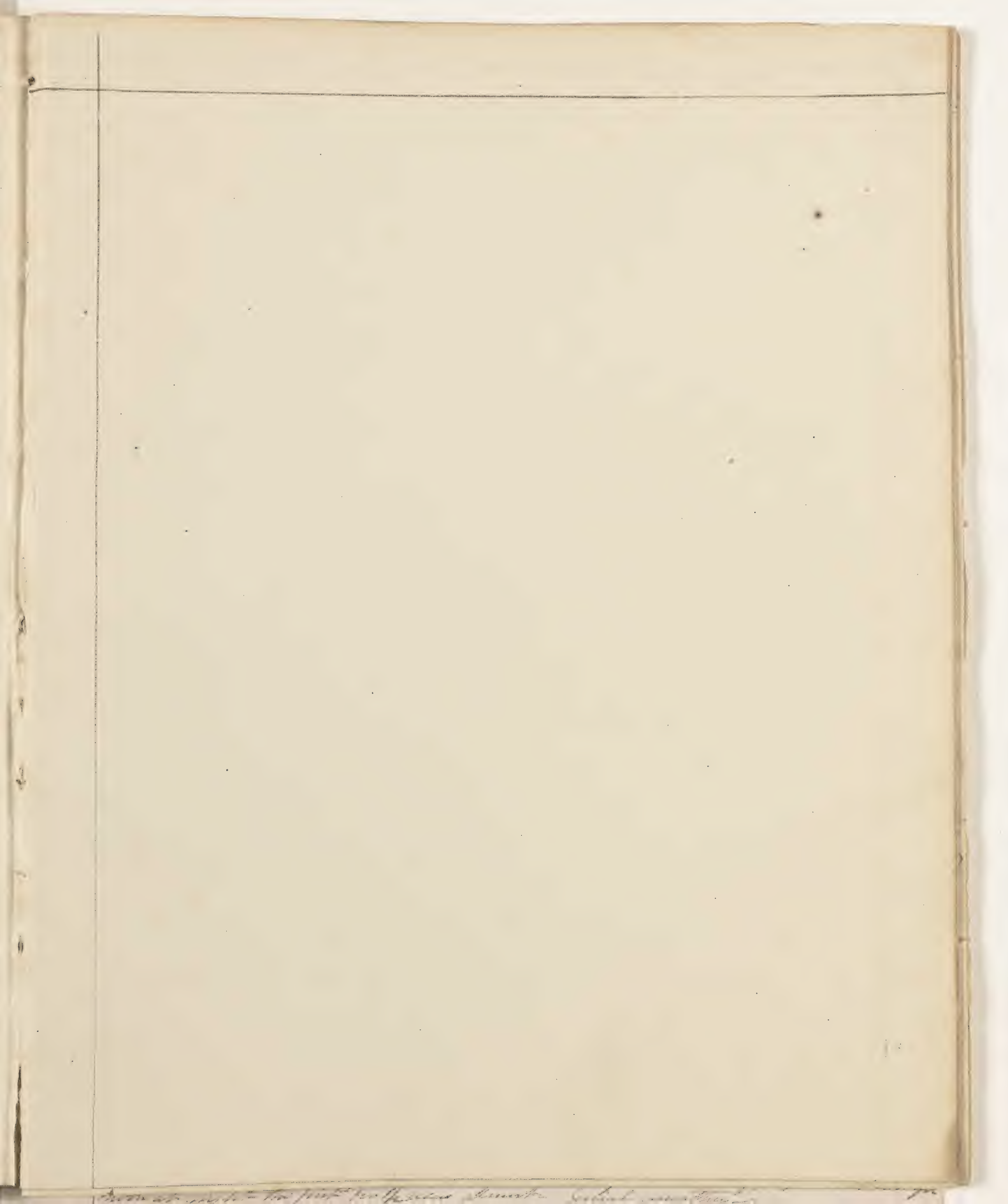
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Dec 1842

- 7th *Monday* At 4 AM Unmoored & at 6.40. Made sail down the Cove with a breeze from NW & W. Stood camp at Francis Bay & by 10 AM the Horn was bearing N.W. 4 miles off. Saw the Cairn erected on the top by the officers of the Beagle. Its surface looked greener than when we passed a month ago from the large windows built on the side. - Noon Lat. 55° 22'. Long 66° 53'.
- 8th Lat. 55° 30' Long 64° 00'. Air 39-42 1/2 Sea 45.5-42. Bar 29.543-203 Falling NW & N breezes with rain all afternoon & night.
- 9th Lat. 55° 58'. Long 60° 40'. Air 41-39 Sea 42. - Bar. 29.184-464 rising North & NW breezes with rain all day, printing a big paper. - Papered some scummed spotted periwinkles.
- 10th Lat. 55° 32'. Long. 60° 52'. Air 39-46 Sea 42-44. Bar. 29.404-887. Calm & variable wind with fine weather hardly making any way.
- 11th Lat. 54° 24'. Long 59° 55'. Air 38-43.5 Sea 42-43.5. Bar. 29.860-30.077. Southerly & westerly breezes & fine weather. - In afternoon & night soundings struck over a bank in 40-50 fathoms near Little Horned rocks of the charts. All stones shells coral. & rock a nasty sea over it & cold with the S. wind.
- 12th Lat. 52° 39'. Long 58° 43'. Air 40-46 Sea 43-44. Bar. 30.113-29.906. S.W. wind & fine weather much calmer, sharp hawk gulls & other sea birds sea fowl. 6.15 saw Mearns. In the evening had a fine view of the Wickham Archipelago from Port Arthur to Port Louis. - At night went to off the mouth of Berkeley Sound.
- 13th Looking up Berkeley Sound with foul winds freshening in the day time but fine. A Schooner off Bird Island signalled to us that 2 men of war had been in the harbor. Between Long head & Hog Tail Lamb. Island Wickham landed us in the dingy & told us that the Philomel had been there & gone down the coast surveying many bays had arrived per Philomel. Princeps Royal. (Whitington) Schooner & Mr. Arber. brought back two Point Barks & letters on each side & saw Port Jackson. - Place looks wonderfully flat

& Zeller after Tuzia. Weather had been fine. Country very much dried up.

14th Foreman Dalkett Barque arrived - a very bad state wanting repairs. Passengers from Sydney for England. G. Gibbon Esq. - Messrs. Wolan Porter Brathem & 2 others - employed landing among other things many hundred line plants for the settlement which were planted in the foreground.

15th Sent a boat down the Sound for eggs which returned with a load of Penguins eggs & 2 kinds of the bird the Macaroni & rock hopper also the little Hermite. All laid up very different from the Kingbirds found on - the Gintoo or Gento or Gintoo is another not common here as large as the King which is also found.

22nd Brig "Philomel" Capt. Sullivan arrived & anchored outside the Tower.

24th At Daylight observed a Murchison brig at anchor in the Sound she proved to be a whaler of Whittington's the Marianna Capt. Lock. which was equipped with patent iron plates which had exposed off & left her in a tumble state so badly off for rigging & that she could not work up the Sound but had to wait for a fair wind.

29th Invalided Edward Baxter went for Mr. Dalkett for a paper home.

December 1st Foreman Dalkett sailed with letters boxes &c. - Dined on board Philomel.

2nd Philomel sailed after collecting us.

15th Prince Regal Whittington's Schooner returned from Port Phillip where she had gone to fetch stores &c.

16th Announced ship - John sailed ^{for Macquarie} - got very late ship at Bransby Bay about the day before.

Dec 1842

17th

At 4.30. Have shot weighed made sail - Fired a saluting
gun in return to a salute from Mr Whittington's store house -
Mr Cook master of the *Marion* came on board for surgical advice
having the palm of his hand blown off by the bursting of a powder flask
in firing a gun - 8.30 we up made all sail down the Sound.
Smoke of our fire & others at Port William very remarkable
obscuring the land strong haze lying low over the sea from the
Evaporation of the sea water through the dry air brought from shore.
The dew point opposite 49. 61. 49. 12. at 3 PM still off the
land dist 20. 59. 49. 10. Vabg 50. 47. 3. - Steering for Clarence
Isld. to the ^{NE} East of the South Shetlands

18th

Lat. 52. 54. Long 56. 43. Air 50 - 46 Sea 40 - 45. Bar 29. 447 - 298
Wind variable & light all day & at night. Paper Sailed

19th

Lat. 54. 23 Long 56. 1. Air 46 - 42 Sea 46 - 44. Bar 29. 233 - 490
SW. wind (4-7) Fine weather but a heavy sea on Paper Sailed
Statistics of Sailed.

20th

Lat. 55. 51. Long 54. 42. Air 41 - 57. Sea 44 - 42. Bar 29. 469 - 560.
Breeze & N. wind with mist in morning N & NE with rain all
afternoon bright.

21st

Lat. 57. 4. Long 52. 22. Air ~~48 - 36~~ ^{48 - 36} Sea 41.5 - 30 Bar 29. 572 - 213.
N. wind drawing wind to W. in morning a heavy westerly gale in off.
morning with thick weather & a high sea on.

22nd

Lat. 58. 16 Long 52. 00. Air 39 - 34 Sea 30 - 34.5. Bar 29. 383 - 699.
Heavy gale continued in morning moderating during day with
flying weather & fair. Saw a Tern.

23rd

Lat. 59. 53 Long 51. 50. Air 38 - 34.5 Sea 35.5 - 33 Bar 29. 798 - 500
N. wind clear in morning blowing fresh & thick in afternoon.

24th

Lat. 61. 23 Long 52. 19. Air 36.5 - 34. Sea 34 - 33 Bar 29. 584 - 194.
N. wind with fog off Clarence Isld (uninhabited). Saw the first Berg &

a *Chironis* apparently the same as the Falkland. Both species
Several Pterys not heavy in square shape & some pieces of them in
very rotten were papered today - These Fogs are very annoying.

25th Lat. 62° 14' Long 52° 5' Air 35.5 - 20. Sea 34 - 30.5 Bar 29.430 - 290.
Winds SW & S. a hard gale in the morning misty with snow squalls.
Clearer but fiercer in the evening & night. Many Pterys & saw the
pink white Petrel soon after papered through a stream of loose ice &
made a heavy pack to the N. The pack though very heavy is
formed of large cotton pieces of ice - The Pterys sometimes upset &
appear sleeping fast from the warmth of the water & the damp-
ness of the thick N.W. winds which have prevailed lately. They
assume as we proceed a more tabular form in all respects like
those of the Barrier.

27th Lat 62. 10 Long 51. 57 - Air 32 - 37.5 Sea 33 - 34. Bar. 29.256 - 200.
A westerly light wind. & calms with very dense fogs. The air
saturated with the moisture condensed by the cold atmosphere
to the N. of the pack - Early this morning heard the surf beating
on the ice close to the ship but could see nothing of the Pterys.
At first I thought that the melting ice was the cause of much
of these fogs which we have always found more or less to prevail
about a degree or two to the North of the Packs & this may be
a great cause. The condensation of the vapor brought by the N. winds
which are necessarily charged with damp must be the chief agent.
The average temp of the air for about 2° to N. of the pack during the
time the West & N.W. winds prevailed with the Temp was 33° 6' &
that of the sea 32° 2'. Hence not only does the sea give vapor itself
but the temp of the air condenses the vapor brought south to its
influence. The Temp of the vapor here is about 32. Two degrees further
North 36 & 2 further still 40° - & not only does the temperature of

Dec
1842

that the vapor decrease but the degree of moisture in the
atmosphere Myr scale also rises - Then Fog lies very low
& after fall instead of rising leaving the Zenith clear thus
clinging to the cold water the upper part of the air is the probably
warmer regions having a greater tension.

(1st)

Lat 62-31. Long 52-36. Air 29-33.5. Sea 30-33. Bar 29.33. 25.0.
Northerly & NW winds with dense Fog all day. Many birds & birds
one came was L. SW in the morning started off & on it standing
to the NW all day to get in shore between Jack & Land

28th

Lat 62-44. Long 53-43. Air 37-32. Sea 34-32. Bar
North & NW winds with sun & Fog in the morning - In the
evening more heavily & with blow over the cold hills of Palmen's
Louis Philippe Land bring clearer weather. Birds & were seen
very numerous the former very large barrier birds - Many birds
Whales especially 2 small species with long dorsal fins, one
rather larger than the other with fin also longer in proportion
sticking high out of the water their color is dark with a broad
white shoulder mark & another behind the head the blow hole
is on the top of the head transverse like this the spout short
thick steamy & upward. These species are very similar but are
easily distinguishable by the length of the fin & they go in
separate shoals. - The large finner whales are also very common
but do not trouble so much like Dolphins as the smaller
species do not go in more than couples - between 2 & 3 PM
Fogged seaward twice apparently the common *Macrura* too but
in a remarkably high latitude especially with so many heaps
the finners were small battered & faded. At 6-20 made the
land the 4 trawlers went round by South to S 36 S. with several birds
off it. It terminated to the NW in a bluff cape nearly round with

with snow many parts however & especially the outlying led were bare - The land is low rounded & not at all imposing though from the clearness of the evening we had an excellent view of it - A small led to the NW detached high appears to be Hope led of the old charts rejected by the French charts though not far from Cape From cairn - None of us ever saw so many large bays as there are here together, tabular chiefly many 1-3 miles long perfectly blocking up the horizon - Running at right to the East with 5 or 6 small led off the land on the starboard beam - The extent of coast seen tonight is from Lat. 62. 40 to 62. 45.

Many pieces of bay & pack ice had rocks penguins & a few seals on them some of the pack pieces covered with reddish silt or earth apparently mixed with gravel. All day the washed pieces of pack ice have been stained with yellow caused doubtless by the Infusoria i. the stomachs of the Salpa which are washed up against the ice & leave this stain (the same as last year). When the wind was light & the fog thick in the morning I recognized the animal smell very strong from the pack precisely similar to that of wash ice with the salpoid remains melted last year by me in the Cabin - Sketched Hope led N. - Evening -

24th Lat. 62. 40 Long 53. 42 - Air 35.5 - 30.5 Sea 31.5 - 32. Mar.
A steady wind in morning with fog & mist SE & South in afternoon & night stronger especially with snow. Popping by & through much ice to the SE & coming to the pack was along it with a fine bay. Bays very numerous & large.

25th Lat. 63. 36 Long 53. 33 Air 32. 29.5 Sea 32. 31. Mar.
Southerly strong breezes with a little snow in morning & clear cloudy weather. At 2.30 AM seeing that there was no hope of getting to the Southward by the East. we about ship about 1/2 hour cable

Dec.
1842.

we stood on for the land - which we made at 4 PM bearing
from N.W. to S.W. It was to the S. & W. of what we
made before & consisted of a range of higher mountains or plates
perhaps 3000 ft. high covered with snow. The peaks had all the
appearance of being of volcanic formation but we saw no jets
a huge glacier perhaps 10-20 miles long stretched along one part
of the range from 2/3 up the hills to the coast & was so uniform
in level & surface that the hills appeared to rise out of it.
At other places steep heights or straits, bluff points, black cliffs &c
intervened but the scenery was no where grand or striking
One of several outlying islands was almost bare of snow & had
the most perfectly crater shaped form as have many of the peaks
on the coast. Generally the islands are very bare of snow. - we ran
on to the South & S.W. along the pack in our foreward hand passing
much ice more like the northern than any thing our Arctic
travellers had seen being more rotten & higher out of the water
The bergs still steepen down sometimes falling to pieces. Many
of the two kinds of whales mentioned above & a few Finners
The birds are Cape, White, Stormy & ash colored. Petrel occasion-
ally a ^{petrel} jaunter, a Hawk gull, a small tern & Pinguins of the
kind caught last year small short beaked with a black throat
& rather long tail & the giant King. - a few Shags of the 2d kind.
Lat. 63. - To Long 55. 20. - Riv 30. 40. Sea 32-33. Bar.
Calms & light E & N.E. wind in the morning South & S.W. afternoon
with very fine weather. Crossing the land on all night running
& steering through openings in the ice to the South. - In the
morning the ice opening to the East by a tide or current
as we ^{stood} ~~came on~~ to the East & S. In the afternoon made an island
land to the S. & West. - The island had a peak of a water form
exactly similar to that passed yesterday a little to the South

31st

Langs
1843.

220

Another flat held was to the West of it both covered quite bare
of snow & the land trended to the East? for then doubtless
going that we have left to the North - The mountains at the
back were covered with snow & had a tabular form there was
much ice about the coast so that we put about at 4.30 & lay
to S. all the rest of the day with light winds many prodigious
barries were struck to the West from the West point of the land
between which & us was much heavy pack ice. many large
bergs were also about. A strong tide set in towards the South all
the evening & night. - The ~~the~~ S. & Southerly winds we cold but
very dry & with fine clear weather. - The pack & bergs drift to
the North very fast indeed.

1st

A very fine clear glass day.

Lat. 44. 14 Long 55. 54. Win 29-35 Sea 32-34. Bar

Westerly winds & cloudy in morning N.E. & calm in afternoon clear.

Able of this land which here appears to form a deep bright snow or left
full of ice generally pack with heavy bergs. The afternoon is the
warmest I ever remember to have spent on the ice causing water
to evaporate & steam visible from the black Gangeswaj's. - Though by
my G.P. Therm. - Vichiton & the French centigrade the temp was 32. The Dutch
Therm was 31. probably from Radiation the G.P. was 7.5 degrees lower with
a light air from N.E. Having obliterated the bulb of the French centigrade
it was from 2.00 to 37.2 =. Later the weather was pretty clear -
Capt went on board Tern. The N.E. winds caused the ice to pack ahead
at night ahead. Dined in Cabin -

2nd

Lat. Long. Win 29.5-42. Sea 31.5-34. Bar

N.E. winds & clear weather all day at night shifting to N.W. & coming
on once more blowing fresh - At 7.20 P.M. The ice closing in on us was
made fast to a large piece of ice - These pieces are small larger & heavier
than those we made use of last year covered with large hummocks

On Long
10. 1843.

& the surface after & is treacherous that one often sinks in up
to the knees rendering walking very uncomfortable Saw a very
large white Petrel, nearly as large as the ^{same esp. last day & fresh.} gull Petrel but white
& speckled with dark across the back. - Many Southern Oyst. Shuckens
whales both Finnes & the 2 small kinds. Leopard seals small &
King Penguin white Petrel ash backed do. - Hawk gulls & gull Petrel.
- one Cape Pigeon. - Dived out 2 pair of Sca. gulls & saw
lots very good indeed. Dined on bread & butter. At 2.30 PM went off
from the ice. blowing fresh. Whilst waiting for the "Iron" picked
up 3 King Penguins one of both. another. & 1/2 Long

3rd Lat. 64. 22. Long. 55. 26. Air 34.5 - 31.5 Sea 33. Bar.

NW NW gale all day (S.W.) moderating at night with the wind
shifting to S.W. & snow. Misty & snowing all day. There is an open
pool of water. had some present berries served out.

4th Lat. 64. 35. Long. 55. 41. Air 34.5 - 30. Sea 32 - 35. Bar.

S.W. wind & cloudy in the morning - N.W. in afternoon still heavy on
the horizon. A white Petrel flew on board tonight the first that
I have ever observed with confidence. - for which he was killed. -

5th Lat. 64. 11. Long. 55. 57. Air 30. 32. Sea 34.5 - 32. Bar.

N.W. wind & gloomy in the morning & still in afternoon somewhat
rather a fine but gloomy day. - Feasting almost in open pools &
muzzling some way to the west closing in with the land at a
deep light rather clear of ice. The coast to the S. of us is very
free from snow both the Northern shores are nearly covered
A curious crater shaped hill seen on the 31st. Ice is now
pretty close to windward of us.

6th Lat. Long. Air 31. 4.5 Sea 31-34. Bar.

Light NW wind & calm in the morning with beautiful sun
N.W. & N.W. in evening & night gloomy & overcast

At 9.30. Down cutter & landed on the conical island which has been so long in sight its appearance is that of a truncated cone low round & the slope at an angle of nearly 45° formed of loose stones here & there lined with yellow red dirt otherwise of a uniform pale brown very scoriaceous looking with few or no rocks cropping out in valleys & only diminished by here & there the stones lying in streams of larger masses the base is about as long as high. On the top of this cone is placed a tabular mass of hard black rock precipitous & of the same height all round rising uniformly on the cone of stones with here & there a narrow gully on its flanks its height is about $\frac{1}{2}$ of the base abruptly ending it at the base of the precipice but the upper edge rather rounded or worn away the top is perfectly level. The crater now extinct rises from this tabular platform on its western extremity is even beautifully cone shaped as seen from S.E. round by E to N.E. from which points it appears to rise from the very centre of the table land but from the N.E. & N.E. it shows on the side of the table land & has a precipice communicating with that above mentioned. The summit

of the crater is flat & horizontal but slightly jagged from a point of view did we see an outlet if there be any it must be to the S.W. its color is darker than the base but not so black as the table its sides covered with stones & a very few rocks crop out its apparent height 2 miles distant of the coast of the East. The complicated diameter of the bed is its height. Its position is in a narrow gulf? Nothing N. its shores on the north side formed of steep cliffs & open valleys more or less covered with numerous beds of sand except on the faces of the cliffs which

are black & white with here & there transverse bands of yellow & ~~black~~ red. The broken edge of the snow above the black cliffs shows it to be of immense thickness the mountains at the back are now & are undulating covered with snow. The front is lined with barrier ranges & the abrupt cliffs of glaciers stretching from inland to the sea south & east. Some of the ~~the~~ for perhaps 20 miles ^{there is a blanket} & is met by the whence this may be a large gulf or bay or a strait. The south shore again consists of tabular topped mountains much higher perhaps 2000 ft covered with snow. Sometimes appearing like huge square towers or castles. The land runs down in snow ridges to the sea. The shores are all one uniform cliff of the color of the inland intersected by numerous almost perpendicular snow transverse gullies & are the low hills immediately above the cliffs (just the ice tabled out mentioned above) are as well as the bed entirely bare of snow. This I land terminates in a black bluff point bearing from the bed which latter is miles thick from this shore & from the north one. Whilst the bed looked like a mass of ice these cliffs as uniform on the whole line appeared like a mud like dried up & cracked up & down. I know no part of the world (our sleds were among strong) which the appearance of its surface could be better compared than to the ice in the Red Sea. They bear on the face of the steep these peculiar marks of *Pollanum* *vacuities* &c. which is well represented in *Crustacea* & *Forthetoth* like *Caracaria* & which cannot strike every observer of the principal features of the mountains & Transverse. In the boat we steered for a rocky place at the foot of the cone where there was a flock of *Pinguins* or another.

looking of those birds of which there were several along the shore
 as we drew near the cliffs of the island appeared to decrease in
 height & instead of being 2 or 4 miles off we pulled up to
 discovering an height & distance. Not being able to detect
 with a glass any tinge of green on any part of the surface I
 doubted whether any plants grew there my only hope
 lay in the orange red tint on some of the larger stones & always
 on their upper surface which I thought was thus more likely
 to be a Lichen than oxide of Iron. The Penguins were not on
 their nests or rather in crowds on the stony ledges they were of
 the small Antarctic kind with the black throat & kept up
 a tremor close down which with the stretch of some strong was
 when it was upportable a few Red eyes but the most had the
 young bird covering between their legs as they bent forward
 with open mouths straining & creaking at their appendages
 holding their ground & pushing manfully. Many shags
 also with their young were in small flocks amongst them
 & would not be driven away they are beautiful birds of a
 large kind like the King shag like but beautifully bronzed
 with blue iridescent & a white band between the wings the
 cere much carver colored & golden yellow crest some ring of
 the eyes prominent & bright blue - Iris yellow brown, Iris pale.
 Bill dirty red sides of neck & whole of throat & belly white
 eye flesh colored. Their attitude was most alarming for they
 showed their huge red mouths showing their black palates &
 red spurs & with their huge prominent eyes kept peeping
 & wriggling their head in all directions like a woman trying
 to frighten a child with ugly faces. Though the community
 seems to abound in discrimination of both shags & Penguins

the latter will not allow their neighbours to walk through
or past them - one stag when frightened or rather driven
from its charge amongst the Penguins was killed at once by
them & so are the young. - Passing through the Penguin
covey commenced ascending the hill side which is formed
of small loose angular volcanic rocks of various sorts sand
traps & granites, porphyrites & other basaltic slabs & scoriae
have all mixed together the latter containing crystals of
small lime? Thomsonite & in some cavities & the harder
trap what appeared to be Basaltite. - As the ascent was
very steep we found it better to keep amongst the larger
streams of stones which came down from the gulches in the
escarpment above & on them we did indeed apparently the
common Indo capensis MacGillivrayi was in great abundance
in discriminating on all the kinds of rock - a little below
perhaps the H. crispus was also found in the shifting earth
lying amongst the larger rocks also a few modest Theridion
Lichens. The day was fine the sun clear & very hot - but
the stones hot & as slippery as soapstone so were the Lichens below in
so much that it was difficult to get specimens as they slipped
off with the blow of the hammer. Arriving at the cliff about
300 ft up found it composed of a black clastic lava containing
masses of all other lavas - differing in composition at every
few yards - The softer parts were often worn away leaving
little gulches generally lined with snow or ice or sometimes
occupied by the white petrel each of which has one eye almost
as large & like a Pigeon when approached then birds spit
a quantity of oily red matter from the stomach 2 or 3 times
running so neatly that they do not soil their cheeks with it

it being projected forward very clearly by the action of the
 Pharyngeal muscles & the distance of a yard with tolerable aim,
 the stuff is offensive (shrimps are their food) - They also crawl
 a little. - ascending with Mouton & Lyall by a steep bank
 or gully among the cliffs found it very difficult the larger
 stones always going further. This was a loose gravel shingle,
 giving way under their feet & when it lay over a hard surface
 it was like walking up a board covered with hard peas there
 being no hold for the hands but here & there the crumbling
 rock of the cliff. In a shaded hole facing the S.W. about
 300 feet above the sea, where a bank of ice I took the Dew
 point & found the temp 40° the D.P. 13° The nearer the ice
 was approached the more the temp fell but not the D.P.
 a slight almost imperceptible breeze was blowing from S.W.
 The stones were cold both very dry. The earth 4 or 2 inches under
 nearly very damp & so cold that I thought at a few more inches
 it must be permanently frozen but I dared not push the
 therm. down. The stones were so shifting & the place awkward.
 Its position when taken was about 300 from the ice & as much
 from the sun (where it beat) on a slope about 2 ft above the others.
 The difference at 9 AM was & at 3 PM. both taken on land
 A little higher up we gained a sort of embankment or escarpment
 half way up the cliffs full of loose stones with narrow precipitous
 gullies from the cliffs above leading to them in that hollow &
 forming shoots for stones to the sea. Below the rock there was
 harder & thought not so compact & a gully up which I went
 a little way with a view to gain the top was formed of a sort
 of compact perhaps frozen clay & rock too smooth to afford
 a good footing with ice in all the sheltered parts I doubt if

24
10
I could have gained the tabular part had the work not
been piling up the side for all hands & go on board. The
descending was much worse than the ascent - Found a
Calothrix under a rock growing in half frozen water - on
the beach found a species of Desmarestia thrown up also a
bleached Sphaerococcus & one specimen of the Sphaerococcus
pellucidus? Some pale greenish matter mixed with Penguins
very found & contain some referential matters & a Protococcus
which I take to be the spores of the blue. - Mr
Smith found some rock salt sparingly in series of the cliff
far above the sea - on the beach found a large Macleania thrown
up. apparently the Falkland subspecies - The birds seen
were the small Penguin, Cornucopia ^{of Falkland} shag, Hawk gull,
black backed gull - Chirois, white petrel, gigantic & stormy
dark backed do. - Tern -

The face of the ice in the neighborhood of the led contained here
& there silt gravel & masses of rock from the led or coast
land one time was so sharp that I had no time to look
any further into the geology of the led but I have a piece of
binary granite forming part most probably of a transported
block. From the ships the cliffs rise & there just beneath
on the edge of the table summit were apparently irregularly
columnar as were some masses I met with - The whole led
is most evidently off the result of recent active volcanic agency
there is little sign of slow cooling about it slugs & puffs
rise & are abundant about - It is a doubtful question whether
the floor of this led be fissures or one other than was to have
been a crater? I gathered in the two hours 15 plants & an insect.

24
14

Every increment of heat the summer solstice as well as
of retarding the radiation of its own cold offers a situation
which a certain class of Vegetables can take great advantage of
such the Lichens are known to be & the proper they have a
life apparently independent of atmospheric changes & to a
certain extent they vary more where the extremes are more
marked in certain Latitudes they are more luxuriant according
to the exposure. This is particularly the case in Cape Horn & the
Falkland Islands up to a height of 1700 ft in still higher
Latitudes ^{or comes prevailing} & lower temperatures probably this order is reversed
for the Senecio melampyroides though found at Desolation Hill
does not inhabit Cape O'Neale on the main land (viz Foster)
nor do any of the Lichens now gathered become any thing
materially above the crustaceans. To account in the common
way for this vitality of cryptogamic plants is impossible. By
some it is attributed to their coriaceous texture but that will
not hold good with the delicate proper Calothrix Stictis Stictis
probably depends on their ^{specific} latent heat ~~stimulating~~ & other
chemical causes. - It must not be overlooked that several of
the plants found here the ^{Leucosia} ~~Leucosia~~ leucosia & Calothrix are
only found near the sea in lower latitudes I do not ascribe to
high there as here. This inversion may depend on the ^{more frequent} frequent
invasion of larger & smaller ^{Leucosia} ~~Leucosia~~ Leucosia was most
luxuriant with the other Lichens at about 100 ft I ascended to
300 none were seen near the beach of any kind. The number
of seaweed noticed here was more than that of terrestrial plants
for the sea is full of sea & these forms are not likely to resist

the consequent battering but it cannot be supposed that it is always smooth water that their species containing salt water instead of fresh cannot freeze till the land be frozen & so that the lower water is warmer than the surface & that as soon as the surface freezes they are protected from any further cold. Still it does appear anomalous to me that they should be found in so precarious a situation as a sea full of floating ice where the rise & fall of the tide is not great & where the average of our thermometer of the water was.

All that we saw of the beach was rocky & here & there sandy the black & large grained. It appeared low water as we showed off at noon, if in the rise & fall could be trifling as the ^{stones} cliffs a little above is not seen water worn or within their reach. - The warmth & stillness almost amounting to a calm of the day seemed favorable to the Penguins which were jumping in & out of the water like Pomote fish or salmon, in pursuit of food or for pleasure in some places the water seemed almost alive with them & from the hill the sight of them & the sparkling of the water was very pretty. The pleasant temperature of the day quite compensated for the sea scene all round. The Lab. of this hill is Long.

Several nodules of carbonate of lime of a yellow color were picked up who specimens from boulders of a very pretty rock composed of quartz mica & hornblende with no feldspar it very much resembled the rock of N.W. bay Hornet hill.

It was low water at about noon & all the afternoon the tide was setting up so strong that with a light N.W. wind the boats towing ahead we could not get to the beach. but held our own abreast of the sled. At 4 PM we pulled stove away for the point of land to the S.E. of us & doubling a sort of cape ran to the S. along & quite close to the land which presents an extraordinary appearance as if formed of a sandy brown cold clay broken up into narrow slots of valleys which descend from an infinite number of craters all along the tops of the ridges. The cliffs on shore were steep & marked with black & narrow ^{shallow} horizontal lines. The snow lay in very narrow lines in these slots of valleys radiating from the top of each cone. I do not doubt the soil to be composed either of a porous volcanic clay or more probably of indurated scoria. There were no cliffs that appeared like rocks in situ or other than large volcanic boulders - of the same color as the soil. No trace of vegetation to be seen with the glass when within 1/2 mile of shore. average altitude 400-600 ft? - we ran between the land & an immense chain of bergs between a very heavy pack was on our Port side. - the intervening channel narrow. land trending S.W.

7th
Lat. 44. 34 Long. 57. 10. Air 35-31 Sea 32-30.5. Bar 30.635-32.9.
N.W. wind in morning gradually & a little snow. S.W. & gloomy during the day. - Between the land & chains of bergs & ice early in the morning saw the pack running from the land at S.W. round by S. to S. hauled to the wind on the Port tack. At 2.30 PM surrounded in 10 fathoms small black stones here we were brought up amongst much small ice & many bergs between the pack & land. Tacking to keep the ship in open water all evening & night.

- 8th Lat. 64. 35. Long 57. 27. Air 28-33 Sea 28.5-31 Mar. 28. 902-768.
 E & N.E. light winds with heavy fog & calms all morning & day
 keeping company with the Terror difficult by firing guns &
 Patenarow's beating gong & bell &c. - amongst many large bergs.
 Tackling us necessary to keep ship in open water - 11 AM. rounded
 in 95 fathoms mud. In evening drifting towards a large berg
 close to us. Down boats to tow - a light breeze from W. filled
 & ran through a very narrow channel between 2 large bergs
 also towing - Fog all night.
- 9th Lat. 64. 44. Long 56. 53. Air 29-36. Sea 30-32. Mar.
 Wind S.W. & S.W.W. morning with fog & snow. Calms & S.W. all
 day gloomy & overcast. - N.E. & cloudy in afternoon & all night.
 Saw some black backed gulls Early this morning the sea closed
 in all round us both ships lying along side a floe. our ship
 bearing N. N.W. over the land dist. miles 11 AM. rounded in
 165 fathoms green mud. At noon cast off & made round & passed
 out of this place made fast again having only shifted our position
 See moving soon had to shift again the Terror put to same place
 Floe very hummocky full of soft snaper of half melted snow &
 pools of melted ice - Picked some frozen mud & stones from ship's side.
- 10th Lat. 64. 43. Long 56. 50. Air 31-37 Sea 30.5-32. Mar.
 S.W. & S.S.W. winds with fog & snow all morning. Southerly during the
 day overcast. Calms at night. Fast a piece of ice drifting to
 the north. Down L.H. of land S. by W. ^{ship's head} S.W.
- 11th Lat. 64. 42. Long 57. 6. Air 35-27.5 Sea 31.5-30. Mar.
 E & S.W. winds overcast with fog & snow all morning - Round by
 S.W. with much snow all day. Quiet & S.W. at night.
 11 AM. cast off & ran E.N.W. all afternoon working to S.W. between
 bergs & banks & the land is comparatively open water - The land
 here is abruptly met by a barrier of ice smaller but very similar

to our Southern one. rising into low undulating hills. It meets the cliffs of the brown land described above abruptly in one place a ridge of the land runs through it. At night taking amongst large bays along the barrier - These bays do not belong to the Barrier being much higher than it is & a ground stretching the sea & holding the pack every where as far as the eye can reach

12th Lat. 66. 39 Long 57. 55. Air 32.5 - 26. Sea 39.5 - 31. Mar

Winds (2-4) all day gloomy & squally & snowing. Nothing taking working or house to be a part all day amongst bays & from ice between the barrier & Pack.

13th Lat. Long. Air 34. 32. Sea 28 - 30.5. Bar.

Winds clearing but fine. all morning taking & working amongst heavy ice & bays. In afternoon ^{at 2.30} tide took the ship into the lee sea - cleared by 5.30 by sweeping & a breeze springing up were enabled to keep clear - Then back all night to leeward - Got into a fine piece of open water at 9.15 tide changed setting to S.W. It set N.W. up along the barrier about three mile mark about 10 ft high to all appearance. Taking all night waiting for "Snow".

14th Lat. 66. 33. Long 57. 24. Air 34 - 24.5 Sea 32. 30. Mar

Winds gloomy with a little snow all day - Here to be moving then ran down to barrier found the ice close to the N. of it & all round to S. & East. Capt. Craigie came on board. Finding it impossible to proceed some up ran to N.E. attempting to get out of our confinement for we have been shut in by the ice coming up from South & pushing against the land - sweeping & boring all afternoon & night both ships fairly beset & drifting either way with the tide - Ice very heavy of places broken bays & crushed pack ice.

Lat. Long. An 23.5-33. Sea 30-32. Mar
 NW. wind in morning S.W. & day & afternoon fine & clear. SE. at
 night cloudy. Weaving the NW. in morning tide setting strong to
 the East got into a hole & drove to - 6 PM. Ice closing all round -
 got hold of a piece & made fast - Towed fast to some piece - Ice close
 all round at 10.45. Cast off & warped through the ice till
 6 PM. Then made fast again Towed fast to some piece at 9.30
 tide turned & set to SE. The birds seen lately are then mentioned as
 belonging to the island with occasionally a Cape Pigeon which are not common
 near the shore or any where inside the Parks & Giganti which
 from sometimes having the back head & shoulder quite white I am inclined
 to think may not be specifically distinct from the scarce white large Petrel
 altogether similar & habits but seen very rarely - May see drifting for
 first time

Lat. Long. An 28-40 Sea 30-31. Mar. 29. 197-29.303.-
 N.E. wind in former part of day windy with much light snow - Southly &
 southerly in latter part gloomy & a little snow at night. Ice closely packed
 all round starting to the N.E. in the afternoon - rounded in 60 pm green sand
 On board Towed coming across at 10 PM the floor to which both ships
 were fast split in three pieces & the ships were soon adrift unmoored
 the hawser with difficulty - Both ships made fast to the remaining
 piece - 11.40 carried away on hawser - Ice hard & heavy all night.
 All the pack here is much more numerous than what we have been
 accustomed to - Gradually approaching the land with the ice.

Lat. 64.22. Long 56.43. An 30-20.5. Sea 30-32. Mar. 29. 301-391-
 NW & NW. wind all day overcast & equally. - 2.30 PM. Ice opening to
 NW. cast off & proceeded northward for about an hour when ice packed
 close ahead & we beat about in an open pool between the land &
 a chain of bergs at 7.50. - Then with Towed made fast to a piece of ice -
 11.20. rounded in 60 pm green sand ice all previous drifting to NW with
 tide - 2.30 ice opening to North cast off stood in toward then warped
 through lead & hove through heavy pack closed it at 7 PM. & ran
 all the way to the NW. The land as mentioned before is all

The color of a pale red brown color rather more snowy than when we
passed it before the ridge formed of craters innumerable running N.E.
& S.W. along the land. Some active. 7.30 abreast of Peak Island on
South Peak where we landed it too is rather more snowy from
recent falls. - At 11. Wind S.W.S. broad sharp up on stand. Tack sailing
amongst much loose heavy pack ice.

18th Lat 63. 50. Long 54. 35. Air 30-26.5 Sea 32.5-31. Mar. 29. 35S-197.
Southerly & westerly winds all day generally gloomy but clear & fine
with a little very light snow. Sailing to the N.W. S.W. all day amongst
flat pack ice. - Midnight saw a star. - Many whales about
South Peak is light all day.

19th Lat. 64. 22. Long 54. 32. Air 35-29. Sea 31. 29.5 Mar. 29. 157-075.
Winds more from the South ^{between} S.E. with much snow but light & dry
during the forenoon & afternoon - weather clear. - Always 40-50 fathoms
sight some days many more 80-130 & 140. Some of immense size.
Fishing about & heaving to see thick all round to the South.
As 100 miles of the Ice with the wind & current are supposed to pass
to the North in one day it is to be hoped that it will soon drift
past & allow us to proceed to the P.

20th Lat. 64. 18. Long 55. 42. Air 24. 30. Sea 30. 31.5. Mar. 29. 084-156.
Southerly & N.W. winds in morning clear but cloudy. S.W. with a little
snow in afternoon soon clearing up shifting to S.E. South & S.S. - Fishing
& heaving to as necessary to keep in open water. Ice still close to the
South. Many bays. Land & land nearly covered with snow.

21st Lat. 64. 14. Long 55. 56. Air 35-29. Sea 30. 32. Mar. 29. 167-205.
Winds between S & South & S.W. with gloomy cloudy weather & snow.
Still making no progress to the South. Capt. Crozier came
on board. 10.30 Am sounded in 100 fathoms fine green mud.

22d Lat. 64. 12. Long 56. 10. Air 25-32. Sea 30-32. Mar.
S.W. winds in morning fell calm & shifted to N.W. then North.
S.W. & N.E. in afternoon cloudy & equally calm.

1st The Tide drove ship against the Ice and I lower the cutter & tow her off - Have to backing & jelling all day keeping the ship in clear water - making no progress.

23rd Lat. 64. 21. Long. 55. 47. Air 30-32 Sea 32. Barom. 29.071-012. -

N & N.E. winds all day with gloomy weather & some snow in the afternoon & mist at night - Have to backing & jelling in holes of the ice - Ice heavily packed all along & scattered & to south.

24th Lat. 64. 24. Long 55. 11. Air 33.5-29.5 Sea 32-31. Barom. 29.021-28.961.

N & E winds with heavy snow & rain falling all part of the day. S.W. by fresh breezes & snow with mist in after part. Ice still very close & heavy - keeping in clear water all day - Now sounded in 185 fms green mud & stones. Current E by N. drift: 0.5 per hour (S. by E. true) - Went on board the tender - Gale gave me a Sargassum picked up in Lat 63. on the South & what is the plant which I look for the Maurocytis in Dec. 28th. It is the plant mentioned by Webster in the appendix to Forsters Voyage as growing at Desception Isld., S. Shetland. - Leaves pinnatifid obscure plane as well as the stems. It was new to the Expedition though we have seen so many Sargassum in different Southern Lats & Longs. - 8 P.M. cutter came for us & we returned.

25th Lat. 64. 15. Long 56. 0. Air 26.5-20. Sea 30-31. Barom. 28.974-070.

Strong breezes from S.W. & S.W. very cold & gloomy but fine & day clear weather. Keeping in clear water all day. working up to the pack edge -

26th Lat. 64. 4. Long 55. 41. Air 25.5-30.5 Sea 30-31. Bar. 28.935-29.077. -

S.W. strong gale in morning cloudy but clear. Moderating in afternoon with wind shifting round & back by South. - Saw 4. Chiron - Tackling & heaving to all day in a hole of water making no progress - Many stars seen at night.

27th Lat. 64. 0. Long 55. 31. Air 25-33. Sea 29.5-31. Barom. 29.066.043. 191.

Partly & E.S. light breezes all day cloudy & gloomy - Working all day to keep ship clear of Ice Tender left - Keeping in clear water all day

28th Lat. 64. 0. Long 55. 52. Air 27.5-33.5 Sea 29.5-31.5 Bar. 29.266-520.

Southerly light winds & gloomy weather all day - Weathering about all day keeping ship in clear water. Now landed on a small beach & picked 3 pieces of rock off similar to the rock of the land adjacent.

Trans.

1043

29th Lat. 64.5. Long 55.54. Air 29.5-39 Sea 30.5-33 Bar. 29.513-504
Southerly wind & gloomy in morning shifting round by West & North
& N.E. with clear weather - At 11 AM. Ice Baron very high ^{29.516} 29.516
29.610. -- Gale & Davis came on board in afternoon - All day
keeping ship in clear water.

30th Lat. 64.9 Long 56.3 Air 29.5-36.5 Sea 32.5-30.5 Bar. 29.563-224
Northerly & N.E. wind all morning & equally - N.W. - N.W. N.E. afternoon
misty. kept over the land. Keeping ship in clear water all day
Tomorrow we commence running to the South if we can get or trying it
for 7 days to get to the parallel of lat. 50 Waddell's track - If unsuccessful
we bear up after that time & try it by the N.W. - Killed two
gigantic Petrel at night both with white heads. One of them has
the body spotted white. Evidently the large white Petrel mentioned
above but not its fully white plumage.

31st Lat. 64.0 Long 55.102 Air 33.39 Sea 30.5-33 Bar. 29.219-28.955.
Heavy N.W. gale all day. Misty but fine over head, blowing very hard
in the squalls. Keeping ship in clear water all day.

Foley
1st

Lat. 63.50 Long 55.20 Air 34.29.5 Sea 31.5-32 Bar. 28.952-29.310.
N.W. gale in morning & equally but clear. N.W. in day foggy & misty
moderating with a little snow at night. Amongst the ice off
the land.

2nd Lat. 64.16 Long 55.22 Air 33.5-28.5 Sea 30.5-32 Bar. 29.321-593.
N.W. wind with snow in morning clearing up during day with N.W.
& partly wind gloomy weather. Still amongst the Pack trying to
get to the East. At 20 PM. got jammed in the ice - a heavy stream
at 30 cleared the ice by boring & crushing.

3rd Lat. 64.17 Long 54.40 Air 27.5-29.5 Sea 30-31 Bar. 29.597-508.
Partly wind & equally & misty with more or less snow all day very
damp & blowing fresh. - Still amongst the ice. Pushing & hauling
in a pool of water.

Feb.
1843.

229

4th Lat. 64. 10. Long 54. 47. Air 26-31. Sea 30-31.5. Bar. 29.495-339.
S.E. strong breezes with gloomy weather all day & a little snow.
Ab. 11.40 commenced running to the N.E. through lead in the ice.
Before noon met a swell from the N.E. Tacking & bearing till 5.30 P.M.
when we cleared the loose ice off the Park edge. In Terror's S.E.
Running & N.E. during night.

5th Lat. 63. 30. Long 52. 46. Air 30-32. Sea 31.5-33. Bar. 29.330-165.
Eastly strong breezes all day gloomy all morning with snow all the
rest of the day. In clear water with a heavy swell a few bergs
about making an Eastly course along the Park edge.

6th Lat. 63. 46. Long 52. 37. Air 32-30. Sea 32-31. Barom. 29. ²²⁸~~304~~ ³⁰⁴~~308~~
Eastly wind all day overcast misty & foggy with snow all early
morning - Bergs & heavy pieces of berg ice numerous. Working all
day to the East. At 1.0 P.M. hove to 400 fms. fine sand.

7th Lat. 64. 0. Long 51. 55. Air 30-32.5. Sea 31-32.5. Bar. 29.281-373.
Eastly light wind all day with mist fog & snow - Still beating
to wind. Tacking off the Park edge bergs & heavy berg ice about.

8th Lat. 63. 49. Long 51. 7. Air 31.5-35.5. Sea 32-33. Bar. 29.356-456.
N.E. light wind. Overcast misty & foggy with a little snowing
rain. Saw an Albatross besides other more Southern birds.
Working to the East off the Park Edge. - At 1.30 P.M. tried for soundings
with 1210 fms. of line went on board Terror with Capt. returned
ab. 9.45.

9th Lat. 64. 19. Long 50. 34. Air 35.5-30.5. Sea 31-32.5. Bar. 29.450-495.
N.E. wind gloomy & misty at times all morning Northwily cloudy
& gloomy all afternoon but no snow all day. Working to the East
all day off & on the Park.

10th Lat. 64. 31. Long 47. 44. Air 30-32.5. Sea 29.5-31. Bar. 29.451-228.
N & N.W. wind all morning light with overcast gloomy weather
N.E. to N.W. In afternoon with snow squalls. What may be a Land
Blink was seen this morning. At 1.00 P.M. at bore for N.E. - S. the ice broke.

from SW W. S. E. - Running along the pack edge - In the morning with
the wind at NW W. - At 4 PM apparent land blink S. by E. to
S. by N. A cluster apparently of islands seen from mast head S. by E.
All very doubtful indeed. - The Pack rather trend to the North
at 10 PM passed through a stream of ice to North of Pack. at 11 PM
ice thickening had to tack off the pack & stand to NW. We have
lately had our constant companions in greater or less abundance
Petrel, Stormy, ash backed, blue, white, dusky, gigantic, Brown, & black
Hawk Gulls & Tern occasionally. - Penguins of 2 kinds when among
the ice - Cape Pigeons abundant. Whales both Finners & spotted.

11th Lat. 64. 37. Long 43. 39. Air 31- 32.5 Sea. 30.5-29.5 Bar. 29.190-28.961.
Eastly wind all day gloomy misty & foggy, with snow over & then
several bergs about. Near the Pack & sometimes in the loose ice
off it. We are today in the position of the Pack laid down by the
Frenchmen during their short attempt to join Weddell's track in
this Longitude & at 8 PM miles to the N. of their furthest south
position in this meridian amongst loose ice ourselves. At 9 PM
tacked off the Pack. a strong appearance of Land S. by E.

12th Lat. 64. 39. Long 43. 56. Air 30-31.5 Sea 29-30.5 Bar. 28.988-29.199.
Wind S. by E all fore part of the day misty gloomy & some snow. Eastly
all afternoon with much snow. Sailing through minor ice loose
& berg ice all day with the Pack to the South of us at 1.30 PM
tried for soundings with 395 fm. At night faint communications
of the Aurora.

13th Lat. 64. 56. Long 42. 59. Air 29.5-32.5. Sea. 31-29.5. Bar. 29.217-29.70.
Eastly & NW wind in fore part of day gloomy with snow. At 5 PM after part
clearer but gloomy with but little snow. Bergs about. - Pack
trend to the E. of East keeping near it sometimes amongst
the loose ice off its edge. It was headquarters that we should
have expected clear water or at least but a very loose path lying
in the Longitude of Weddell's track or rather between his 45° & 47°

Feb 27
1843.

230

- 14th Lat. 65. 56. Long 41. 14. Air 30-35. E. Sea. 30-31. Bar. 29. 330-339.
N & NE winds cloudy & gloomy with a little snow at night. -
The E. winds have continued longer by far than ever we have
known them in the Southern regions & have retarded our progress to
the East very much in that as our ships do not beat well. Ever
since we bore up from the land we have hardly had a fair sail
set. - Pack trending still more to S of East we gained at what
we thought for the lateness of the season & the due course the
pack keeps our furthest South Latitude all of
- 15th Lat. 64. 40. Long 39. 20. Air. 29-30. Sea 30-31. Barom. 29. 371-148.
Winds E. & to the S of East strong & squally & gloomy with a little
snow. - A few bergs as usual about. - 5 AM strong appearance of
Land S.E. - The ice still thickening ahead we have to keep away
to the N. towards where the French were puzzled by the pack
in attempting Meddell's closer wind track - Sailing amongst ice.
- 16th Lat. 63. 56. Long 38. 17. Air 28-30 Sea. 30.5-29. Bar 29. 160-283.
SE winds & gloomy weather all day with a little snow in morning.
Still off the pack often amongst it. - Low ice.
- 17th Lat. 63. 36. Long 35. 24. Air 27.5-29.5. Sea 29-30. Bar. 29. 362-268.
SE & S.E. winds with snow all afternoon & night overcast & gloomy
standing to N.W. Sailed off the pack amongst much heavy low ice
in streams & pack.
- 18th Lat. 62. 39. Long 31-44. Air. 28.5-32. Sea. 30-30.5. Barom. 29. 295-186.
SE winds gloomy & cloudy with snow in morning many bergs. About
Pack edge. - At 10 PM. Sailed miles to the Southward of where the
French made their first attempt at Meddell's track & at the same
hour crossed Meddell's own track on his North way off from 74. 16.
Are also we as the French have a firm pack which at this season
with a considerable length of darkness at night cannot be made
5. 30. To 11. 00 S.E.

July
1843.

- 19th Lat. 62. ¹⁶ Long 29.0. Air 29-30. Sea 29-30. Barom. 29.325-253.
Slightly wind all day gloomy & cloudy with a little snow.
Running along the Pack edge sometimes through streams of ice.
- 20th Lat. 61.59. Long 26.17. Air 32-28. Sea. 29-31. Barom. 29.255-377
Wind variable in morning with snow & fog early & N. in day & clear. Still running along the Pack edge.
- 21st Lat. 61.51. Long 23.50. Air 29-32. Sea. 30-32. Barom. 29.357-527.
Strong S.E. wind equally misty & snowing. Bergs & streams of ice off the Pack.
- 22nd Lat. 61.37. Long 21.51. Air 29.5-31. Sea 32-30. Barom. 29.545-637.
Wind variable shifting from N.E. round by South to N.E. & N. Cloudy weather with 1/2 hours snow in morning. Still off the Pack after running through the streams of ice. At 1.30 P.M. tried the current & found it setting N 60 E. (true) 0.4 per hour. Capt. Crozier on board.
- 23rd Lat. 61.46. Long 18.50. Air 30.5-27. Sea 33-29.5 Barom. 29.486-599.
Wind variable in morning misty with much snow & W on after part of day & night strong breeze with snow again at night. Many Bergs but no fresh ice in sight to day. Running to the S.E. all afternoon & night.
- 24th Lat. 62.26. Long 15.32. Air 27.5-31. Sea. 30-30.5. Bar. 29.702-527.
N.W. & Westerly wind all day with clear but cloudy weather a little snow the first thing in the morning. The Pack ice in sight many Bergs standing to the South in a clear sea & several parallel to Bellinghousers track in East.
- 25th Lat. 64.10. Long 14.19. Air 29.5-32. Sea. 30-31.5. Barom. 29.481-
A heavy Northerly gale especially thick with snow & small ice. The Bar falls at least 1 inch since last night at 9 P.M. to tonight at 11 P.M. As many Bergs are about this thick weather with a heavy sea & gale of wind is very unpleasant hardly being able to stay to see 3 sea off & total darkness at night.

Feb.
March.
1843.

231

26th Lat. 64. 30. Long 12. 0. W. Air 32-35. Sea. 31-32.5. Barom. 29.604-435.
Northerly winds moderating with much snow fog & mist, rain
at times. Calm at mid night. A few Pterys seen but too thick
to see any distance

27th Lat. 65. 12. Long 9.55. W. Air 32-33. Sea. 31.5-32.5. Barom. 29.481-716.
Calm in the morning NW & SSW winds all day with overcast cloudy
weather & snow & squalls. Many Pterys & dusky albatross. White
Petrel are seldom seen but Dusky, black backed & sometimes large
Albatross all seen far open sea. Mid night a faint Aurora

28th Lat. 66. 1. Long 6.53. W. Air 32-34. Sea. 32-33. Barom. 29.712-958.
SW winds in morning with thick fog & snow. Southerly in after-
noon of the day with thick weather & fog.

March
1st Lat. 67. 6 Long 9. 35 Air 32-33.5. Sea 32.5. 29.5. Barom. 29.957-29.118
NE & SE winds all day, cloudy & gloomy except during the forenoon when
there was some blue sky - a faint Aurora in the morning. Drifting
in a SW direction toward Bellingham Sound & toward South. White Petrel
are very seldom seen & no signs of pack ice but constant blinks which
appear to arise from the sun when near being reflected on the banks
of clouds or the horizon for we do not come up with any pack.

2nd Lat. 68. 14 Long 12. 20. Air 36-38.5. Sea. 30-31.5. Barom. 29.009-217
SE winds all the day with fine blue sky & clear weather, variable times
bright - NW & SW. gloomy & overcast & white Petrel seen in morning
a faint Aurora at night. No snow all day.

3rd Lat. 68. 34. Long. 12. 49. Air 38-39.5. Sea. 31.5-32.5. Barom. 29.322-353.
variable winds & Calms all day cloudy & gloomy. At 1.30 PM tried for sounding
with 4000 fms line (no bottom) ran out very fast & for hours before it was
all off the reel. Expended for the same, 1 mil when 350 fms. $\frac{1}{4}$ mil. 5750 fms
Pulver & first. 1200. Found the current running S 45 W (true) 0.3'
per hour. 2.20 made sail again. No snow all day.

4th Lat. 69. 26. Long 14. 29. Air 29-31.5. Sea. 30-31.5. Barom. 29.205-220.
SW & SSW winds all day gloomy with a little snow. One white Petrel seen
flying in the course.

5th

Lat 71-10 Long 15-47. Air 31-29. Sea 32-30. Barom. 29.213-20.84.
NE & NNE wind all day with much snow & strong breeze all
night. Many large pieces of Berg Ice & white Petrel about in the
morning, at 130 Am observed the Pack from NW & rounded by to
the NW. Can along it to the SE. Large Cairn Bergs becoming
more numerous & larger as we proceeded at 2.35 Pack still
extended to SW & very many Bergs about. At 3.30 running
SE through streams of ice. Pack becoming too heavy to proceed
at 4. extending very close from NW to NE. Tacked in our
furthest South for this year 71-30' - to Tumor S.E.

6th

Lat 71-9 Long 15-34. Air 30-29. Sea 30-31. Barom. 29.742-28.5.
A heavy NE gale all day with thick fog & snow. Unable to see
to see ahead. Heaving to windward to weather the pack which
we do with ice but few pieces of ice. Heavy sea getting up, very
unpleasant. Dark at 9 PM & light again at 3.30 Am. At 5 Am
wore off the Pack & stood to the East. carrying all prop of sail
At 4.15 wore again off the pack & stood to North & NW & E.

7th

Lat 70-34 Long 16-32. Air 30.5-28.5. Sea 31.5-30. Barom. 29.790.
to 29.098. A heavy continued SE gale very thick with snow
& fog. cannot see for the most part of the day. The length of three miles
suddenly fell nearly to a calm at midday. A heavy sea on. At 2.45 Am
changed on heaving to wind. Standing to the N with a heavy prop
of canvas. The "Tumor" much pressed. Picked many heavy pieces
of Berg ice.

8th

Lat 70-28 Long 17-21. Air 31.5-27. Sea 29.5-30.5. Barom. 29.125-27.1.
SW & SSW the first thing in the morning with snow & storm fell
calm again & we had a respite of our NE wind & strong breeze & fog
gale fell day very thick with mist & snow. Standing to the SE at
day to make a leg off the pack.

- 9th Lat. 69. 32. Long 15. 43. Air 25. 27. Sea. 29. 5. Bar. 29.310 - 104.
An Easterly & S.W. gale all day. Squally & thick with snow.
Under a group of clouds standing to the N.W. ^{then} summary through
3 P.M. at 1.30 am.
- 10th Lat. 68. 6. Long 15. 20. Air 24.5-20. Sea. 29.5-31. Bar. 29.013-135.
S.W. had gale gloomy & squally with snow showers moderating
& clearing toward night - many P.M. & very few. A single ray
of the Aurora at night.
- 11th Lat. 65. 56. Long 13. 36. Air 27.5-29.5. Sea. 31-31. Bar. 29.130-28.
A strong strong gale with a heavy swell. Carrying on to get out of this
area in afternoon & night - squally & gloomy all day, making a
N.W. course. many P.M. & Coped the circle early, at 6 am. -
- 12th Lat. 63. 57 Long 13. 36. Air 29.5-33. Sea. 31-32. Bar. 28.441-29.113.
Easterly & S. strong breezes & squally with snow showers all fore part of
day. Drawing to the South & S.W. in afternoon clear. Making a
rapid passage N.W. P.M. very numerous & often large.
- 13th Lat. 61. 34. Long 11. 32. Air 28.5-31. Sea. 32.5-30.5. Bar. 29.122-401.
Strong S.W. breezes squally & gloomy but clear weather with occasi-
ally snow & hail showers. P.M. very numerous.
- 14th Lat. 59. 16 Long 9. 19. W. Air. 30-28. Sea. 32-31. Bar. 29.460-358.
S.W. strong breezes overcast gloomy with occasional light snow showers
P.M. very numerous some however very large & all well worked for
smooth & glossy appearance.
- 15th Lat. 57. 37. Long 7. 52. Air. 29. 23.5. Sea. 31.5-34.5. Bar. 29.653-473
S.W. wind in the morning moderating in afternoon round by West &
then calm. N.W. in night overcast & gloomy a very little snow
in morning only 3 P.M. seen to day.
- 16th Lat. 57. 9. Long 7. 15. Air 29. 23.5. Sea. 32.5-34. Bar. 29.449-268
N.E. wind with snow all morning clearing up very fine & clear during
the day. S.W. all afternoon & night. 5 P.M. & a shower of snow. P.M. &
Aurora at night the first for this season. Snow all over.

March

1843

17th Lat 54. 30. S. Long W. 6. 16. Air 30.5-34. Sea 32.5-33.5 Bar. 29.254 - 29.54

N.E. wind with thick weather & snow in morning shifting to N.W. in the afternoon clearer but gloomy & cloudy. Occasionally a little snow. Steering for the position assigned to Point Laid on Cape Circarision Lat 54. 14 S Long E. 6. Discovered in 1780 by Bouvet de L'Isle. Afterwards unsuccessfully sought for by Cook & Furness after their ships had separated. Said to have been seen (vid. Horsburgh) by the "Plover" & "Plover" two of De La Roche's ships sailing when describing it as high, 5 miles long covered with snow & snappers available for several miles for fresh sea in Dec. - Several large birds were seen.

18th Lat S. 55. 56. Long W. 4. 13. Air. 31-34. Sea - 34-33 Bar. 29.365-142.

N.W. breeze gloomy with a little snow in the morning. SE 4-5 with mist fog & snow in afternoon & night. A very few large sea birds from the thick mists of the weather. - Late in the evening saw 2 or 3 of the most beautiful white gull-like Petrel.

19th Lat S. 54. 31. Long W. 2. 25. Air 32-34. Sea. 33.5-32. Bar. 29.115-144.

Partly clear with snow showers nearly all day, gloomy & squally. Gaped several large birds in day & during the darkness with much low sea & ice coming off shore.

20th Lat S. 54. 7. Long W. 1. 25. Air 32.5-36. Sea 33-33.5 Bar 29.087-414.

Light variable wind mostly but clear in morning, Partly clear & after part freshening into a fair N.W. at night. Very squally with snow sheet & rain. A few large birds gaped. Very stormy night.

21st Lat S. 54. 5. Long E. 2. 50. Air 37-33.5. Sea. 33-33.5 Bar. 29.009-529.

Heavy N.W. gale misty & squally with snow all fore part of day. Mostly clear but blowing as strong with a heavy sea all after part. Several large birds seen.

22nd Lat 54. 11. S. Long E. 6. 1. Air. 35-32. Sea. 33.5 strong. Bar. 29.075-534.

Very heavy, Partly & N.W. gale with a high sea - strong squalls with snow hail & sheet - cloudy & misty about the supposed position of Point Laid but have seen nothing of it & no signs of land. Gaped many large & small birds. At night very dark & furious snow squalls - 11.30 while very thick fog & large pieces of sea ice & snow mountain appeared in bay to be a shore long & low. D. Long & wide to be 3 or 4 miles - P.L. above made seen from the ship & coming in it & suddenly bore up & gaped 1/2 cables length & it was breaking over all.

Lat S. 52. 31. - Long E. 8. 5. Air. 33-36. Sea 33.5-36. Bar. 29.118-699. -
Heavy misty fog all morning with snow & gradually but clearer the
more though invisible giving some light. Clearing up & after part still
blowing very strong, raised several fogs - making a comm. for the Cape
It melted to the wind at night.

Lat S. 50. 10. Long E. 9. 15. Air. 34-38. Sea 36-38.5. Bar. 29.720-30.239.
Strong S.W. wind all day till 4 PM then more westerly running to the
North rapidly. Raised 2 large patches of seaweed at 5 AM & 10 AM
one a Laminaria the other supposed *Macrocystis* - In the morning
raised much more fragments scattered of sea & several fogs during
day cleared again at night & in afternoon.

Lat S. 47. 30. Long E. 10. 51. Air. 38-44. Sea. 39-42.5. Bar. 30.223-362.
N.W. strong breezes all day equally but fine cloudy weather getting
more very fast. Raised a few fogs & sea fields - Another patch of seaweed
this afternoon - more in morning in Zenith. - Logged 80 k. at 2 PM.
None to at night.

Lat 45-32 S. Long 11. 54 E. Air 42-47 Sea 42.5-46.5. Bar. 30.300-438.
N.W. steady & strong winds, overcast & gloomy - No more sea but several
patches of seaweed. Sea & air gradually increasing & temp for the mini.
mum in morning & may increase at midday. Wind falling light at
night.

Lat S. 43. 52. Long E. 13. 23. Air. 47.5-52.5 Sea 46-48.5. Bar.
Northerly baffling winds all day clear overhead but with a sort of
 haze in the atmosphere which is nearly loaded with moisture forms
are warm clothing too hot & commenced cleaning decks &c. - Capt.
Cruizer came on board. A splendid night with most copious dew?
wetting every thing

Lat S. 43. 10 Long E. 14. 44. Air 49.5-57. Sea 48.5-52.5. Bar.
Warm & fine with N.E. wind in morning shifting to N.W. in the
afternoon - Clouds quite heavy & tropical but weather hazy &
loaded with moisture very heavy dew at night - A very singular
meteor has appeared in the sky with peculiar that part was unclouded
for since the 21st appears like a single narrow beam of several light.
commencing a little below the 2 stars of Orion's shoulders & continuing
towards the horizon for about 20° in the same line as those stars light
rather intermittent but perhaps only from passing haze: Copied

